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ABSTRACT

The third in a series of four monographs, this study focuses on Black engineering students at Purdue University who persisted, withdrew, or transferred. A survey of the students was conducted to determine factors that influence retention and attrition of Black American students in engineering. A comparison of the pre-college and college characteristics of Black and non-Black freshmen engineering persisters, transfers, and withdrawals is also included. Survey results indicate that the prevailing reasons for attending Purdue were its academic quality and the type of academic programs available. The more important reasons for studying engineering related to salary, job opportunities and an interest in problem solving. Most Black students who were admitted to Purdue but later cancelled, attended college elsewhere, usually in engineering. Engineering persisters were more apt to be achievement-oriented and more often participated in professional activities and programs designed to assist Black students. The transfers changed their career decisions most frequently due to low grades and lack of interest. The survey also indicated that college grades were much more significantly and positively related to persistence in engineering for both Black and non-Black students than pre-college variables. It is concluded that admissions policies primarily based on relative high school performance and supportive programs appear to be the keys to assuring Black Americans equal access to engineering careers. The survey instrument and sample survey responses are appended. (Author/SF)

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Recruitment and Retention of Black Americans

in Engineering at Purdue

3. ENGINEERING STUDENTS: PERSISTERS, WITHDRAWALS, TRANSFERS

by

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# ENGINEERING STUDENTS: PERSISTERS, WITHDRAWALS, TRANSFERS

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## ABSTRACT

Black Americans who began in engineering at Purdue and persisted, transferred or withdrew were asked to respond to a 1974 follow-up survey; 62 of 126 surveyed or 49% did so. The prevailing reasons for attending Purdue were its academic quality and the type of academic programs available. The more important reasons for studying engineering related to salary, job opportunities and an interest in problem solving. Most black students who were admitted to Purdue but later cancelled, attended college elsewhere, usually in engineering. The main reasons for cancelling were financially related.

Engineering persisters were more apt to be achievement oriented and more often participated in professional activities and programs designed to assist black students. The transfers changed their career decisions most frequently due to lower grades and interests. The withdrawals were more apt to have done so due to academic difficulties, low spirits, loneliness and pressure and strain; yet the majority of withdrawals said they would do it again if they had it to do over, and most planned to return to Purdue in engineering.

Analysis of variance was also used to compare within black and non-black engineering persisters, transfers and withdrawals. College grades were much more significantly and positively related to persistence in engineering for both black and non-black students than pre-college variables. Admissions policies primarily based on relative high school performance and supportive programs appear to be the keys to assuring Black Americans equal access to engineering careers.

# ENGINEERING STUDENTS: PERSISTERS, WITHDRAWALS, TRANSFERS[1]

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## I. Introduction

This is the third of four monographs which represents a comprehensive study of the factors associated with attracting and retaining Black Americans in engineering at Purdue. The first report was concerned with trends and statistical analyses; the second with a study of the expectations of 1974 Purdue engineering freshmen regarding college, Purdue and engineering; and the last one focuses on post-college activities of black B.S. graduates who studied engineering dealing primarily with their further pursuits and retrospective look at their past engineering careers. This monograph focuses on a survey of students to determine factors that influence retention and attrition of Black American students in engineering and a comparison of the pre-college and college characteristics of black and non-black freshman engineering persisters, transfers and withdrawals.

## II. Purpose and Objectives

A Survey of Current and Former Engineering Students was conducted in 1974 to obtain information that influenced Black American engineering

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student decisions to remain in engineering at Purdue, transfer to other fields at Purdue, or withdraw. This was augmented by a statistical analysis of college and pre-college variables which compare all Black Americans entering engineering during the years 1967-70 with the 1969 and 1970 non-black engineering freshmen.

The general objectives of this monograph are:

1. To determine those factors which influence persisters, transfers and withdrawals in their decision to attend Purdue and study engineering.
2. To determine similarities and differences between groups concerning their opinions of the academic and other supportive programs and services at Purdue.
3. To determine those factors related to persistence in engineering, transferring to non-engineering fields or withdrawing from college.
4. To compare black and non-black persisters, transfers and withdrawals on college and pre-college variables.
5. To determine the factors associated with the decisions of Black American students who are admitted to Purdue but later cancel.

## III. Method

The Survey of Current and Former Engineering Students was sent to three groups of Black Americans that enrolled as engineering students between the years 1966-74. The survey sample was subdivided into three groups consisting of those who were still enrolled or persisting in engineering, those who transferred out of engineering but remained at Purdue in non-engineering programs and those that withdrew from Purdue University. A facsimile of the questionnaire and the percentage

responding to each question by group is given in Appendix A. Appendices B, C and D are replicas and percentage responses for parts of the survey forms sent only to persisters, transfers and withdrawals respectively. Appendix E includes the results of the 1972-74 Purdue Black Engineering Cancellation Study. Table 1 summarizes the returns.

TABLE 1

PERCENTAGE AND NUMBER OF RETURNS IN 1974
SURVEY OF CURRENT AND FORMER BLACK PURDUE
ENGINEERING STUDENTS ENTERING BETWEEN 1966-74

| Group | No. Sent | No. Received | % Received |
|---|---|---|---|
| Persisters | 47 | 33 | 70% |
| Transfers | 15 | 10 | 67 |
| Withdrawals | 64 | 19 | 30 |
| TOTAL | 126 | 62 | 49 |

A total of 62 responses was obtained from the 126 questionnaires mailed, which represented almost a 50% return. The response from students that remained at Purdue was much higher than from those no longer in attendance, with the response being 33 of 47 (70%) for persisters, 10 of 15 (67%) for transfers, compared with 19 of 64 (30%) for withdrawals. The poor return from the latter group is a major limitation of this study, but telephone interviews with non-respondents suggested that the withdrawal responses received may be fairly representative of the withdrawal group.

An analyses of variance of pre-college and college variables (College Board scores, high school rank, grades, etc.) on black students entering Purdue during the years 1967-70 and non-black Purdue students for the years 1969 and 1970 were conducted to provide a comprehensive comparative study of all persisters, transfers and withdrawals, regardless of whether or not they participated in the survey.

In the discussion that follows, some responses from the survey will be grouped together in an attempt to summarize the more important factors related to black students' decisions to enter Purdue, study engineering and persist, transfer or withdraw. The comparative data of persisters, transfers and withdrawals will be analyzed by individual items. Inasmuch as the survey information represent fairly small sample sizes, care is advised when making general statements concerning the comparisons; this is particularly true of the withdrawal responses.

## IV. Results of Survey

The response to the questionnaire indicates that most of the Black Americans enrolled at Purdue because of its reputation and programs available to them. This is seen in question 3 (Appendix A), which asked, in essence, why come to Purdue? Their response, in order of preference, was:

| | | |
|---|---|---|
| 1. | Academic quality of college | 94% |
| 2. | Type of academic program | 92% |
| 3. | Prestige of institution | 83% |
| 4. | Variety of programs | 71% |
| 5. | Wanted to go away to college | 71% |

While the above factors were generally of great influence to all three groups, the withdrawals also appear to have been strongly influenced by parents, teachers and friends. This is demonstrated in the same question, where 50% of the withdrawals indicated high school friends were "very" or of "some" importance as compared to 15% and 10% for the persisters and transfers respectively. This outside influence factor on withdrawals and, to a lesser extent transfers, will be seen as important further in the study. Purdue's academic quality and variety of programs were more

important factors to persisters and withdrawals than to those who transferred to other programs.

When asked if minority students should get special consideration at or after being admitted to Purdue (question 4), more than half of the respondents felt they should; the transfers were less apt to agree than the persisters or withdrawals. Only 7% felt minority students should not get special consideration at admission and 17% after admission; the remaining respondents qualified their responses.

The time of decision to pursue engineering posed in question 5 tends to show that there are no differences among the persisters, withdrawals and transfers; they decide over a gradual period through their pre-college school years. The median time being the sophomore year in high school.

The aspiration level as it pertains to formal education is high among all groups. The response to question 6 indicates 74% expect to obtain the B.S. degree, 57% plan to obtain a master's degree and 21% plan to obtain the doctor's degree. None of the withdrawals had obtained junior college diplomas, but 20% planned to do so; this was higher than any of the other groups.

Question 7 asks about the factors that influenced the student's decision to study engineering. Table 2 lists in rank order those factors rated as "very" or "fairly" important by at least half of the total group surveyed as well as those factors on which there were significant differences between groups. Higher importance was given by withdrawals compared to the persisters or transfers on visits to industrial plants, hobbies, teachers in high school and high school counselors.

When asked about tutorial assistance (questions 8 and 9), the majority of the respondents sought assistance (62%). However, 40% of the

TABLE 2

FACTORS RATED AS "VERY" OR "FAIRLY" IMPORTANT IN DECISIONS TO STUDY ENGINEERING BY AT LEAST ONE-HALF OF THE TOTAL GROUP SURVEYED OR FACTORS IN WHICH THERE WERE SIGNIFICANT DIFFERENCES BETWEEN GROUPS

| FACTORS | TOTAL | PERSISTERS | TRANSFERS | WITHDRAWALS |
|---|---|---|---|---|
| 1. Salary of the profession | 83% | 85% | 67% | 90% |
| 2. Opportunity to get ahead rapidly | 80 | 82 | 67 | 90 |
| 3. Interest in problem solving | 79 | 76 | 78 | 90 |
| 4. I thought I would like this type of work | 78 | 75 | 78 | 90 |
| 5. Security of the profession | 75 | 76 | 56 | 90 |
| 6. Prestige of the profession | 74 | 78 | 56 | 80 |
| 7. Independence (work on your own) | 69 | 69 | 56 | 80 |
| 8. Leadership in the profession | 67 | 70 | 56 | 70 |
| 9. High school subjects | 65 | 64 | 44 | 90 |
| 10. Hobbies | 62 | 52 | 56 | 100* |
| 11. Interest and aptitude tests | 60 | 58 | 44 | 80 |
| 12. Being of service to others | 50 | 46 | 33 | 80 |
| 13. Work experiences | 58 | 58 | 44 | 70 |
| 14. Radio, T.V., newspapers | 55 | 53 | 44 | 70 |
| 15. Books or periodicals | 50 | 46 | 33 | 80 |
| 16. Teachers in high school | 38 | 27 | 44 | 70* |
| 17. Visits to industrial plants | 38 | 27 | 22 | 90*** |
| 18. High school counselors | 35 | 27 | 22 | 70* |

* $p < .05$ Based on Chi-Square analysis of frequencies

*** $p < .001$ Based on Chi-Square analysis of frequencies

withdrawals felt that they did not need such services compared to 17% of the persisters and 20% of the transfers. The Counselor Tutorial (CT) program was felt to be extremely helpful by withdrawals (33%) and the persisters (35%), but none of the transfers. A little over half of the respondents indicated they had tutorial help either informally from class mates (40%), professors (38%), teaching assistants (49%) or formally through the Counselor Tutorial class (40%) provided incoming freshmen beginning in 1971. The latter was given more helpful ratings by persisters (60%) and withdrawals (67%) than transfers (25%). Other tutorial assistance was deemed helpful by 84% of all respondents; 95% of the persisters, 71% of the transfers and 60% of the withdrawals.

Of the programs available at Purdue designed to help high school and college students, question 10, the levels of participation were as follows for key programs:

| | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| Society of Black Engineers | 70% | 88% | 20% | 33%*** |
| Black Cultural Center | 61 | 68 | 57 | 44 |
| Counselor Tutorial Program | 42 | 44 | 20 | 44 |
| Professional Engr. Societies | 36 | 48 | 33 | 0* |

* $p > .05$
*** $p > .001$

Participation in the available activities varied greatly between groups with marked differences appearing with respect to the Society of Black Engineers (SBE) and a Professional Engineering Society (PES). The participation levels were the Society of Black Engineers, 88% of the persisters, 20% of the transfers and 33% of the withdrawals, and in Professional Engineering Societies, 48% of the persisters, 33% of the transfers and 0% of the withdrawals. Most of the organizations and/or activities

listed in question 10 received favorable ratings with the exception of fraternities and sororities, which were rated fair to poor by 75% of all respondents. The SBE and the cooperative program were most favored, receiving excellent to good responses of 94% overall, 97% of persisters, 75% of transfers and 89% of withdrawals.

The importance of reasons given for career choices was asked in question 11 and received a similar response to question 7, which asked about important reasons for studying engineering. The highest percentage of "very" important rating were given for the following:

| | Total |
|---|---|
| 1. This is a well-paying career | 69% |
| 2. Job openings are generally available | 69% |
| 3. There are opportunities for rapid career advancement | 64% |

The response to item 12 indicated that over half of the respondents received a majority of their college related expenses from either employment (59%) or from their parents (56%). Other significant sources of support were scholarships, fellowships or grants (federal 37%, state 19%, other 41%) and college work study programs (39%). No statistically significant differences were observed between persisters, transfers and withdrawals in sources of support.[1]

Question 13, which asks a number of questions concerning things done since entering college, indicates that almost two-thirds of the total group of Black American engineering students had failed at least one subject. Also, 21% of the persisters, 100% of the transfers and 50%

[1]The data in Appendix E indicates that Black Americans admitted to Purdue in engineering, who cancelled before enrolling, went to other colleges largely due to more adequate financial support.

of the withdrawals had changed major fields and 18%, 70% and 50% respectively had changed career choices. A most significant item is that 80% of the withdrawals considered their dropping out of college temporary, but only 20% permanently; 21% of the persisters and 50% of the transfers had temporarily dropped out of college since entering.

Most of the respondents discussed vocational and career plans with friends (88%) and/or family (83%), followed by college advisors (64%). The responses were similar for all three groups. The students who transferred or withdrew also sought advice from the Dean of Students' office, 62% and 56% respectively, as compared to only 10% of the persisters.

The time spent studying changed drastically for all respondents from high school vs. college, as evidenced by responses to question 16. Based on self reports of the overall group, 41% vs. 6% studied 1 to 10 hours per week, and 24% vs. 12% studied 11 to 15 hours per week; 32% vs. 52% studied 16-35 hours per week and 8% vs. 38% studied 36 or more hours per week in high school and college respectively. At Purdue all groups studied more in high school with 40% vs. 90% studying at least 16 hours weekly. The average study time for persisters and withdrawals was approximately 21 to 25 hours, and for the transfers the average fell between 26 to 35 hours. On the high end of the scale 36% of the persisters studied 36 or more hours compared to 22% of the transfers and only 11% of the withdrawals.

The majority of the respondents reported receiving B (34%) and C (54%) grades in their major subjects (question 17). A significantly higher proportion of the withdrawal students reported high or A grades (33%) in their major than the persisters (0%) and transfers (0%); they were also most likely to report low or D-F grades (33%), than persisters

(0%) and transfers (0%). No significant differences in groups were reported in average grade in all subjects; B grades (30%) and C grades (60%) being reported by the total respondents.

Question 18, which addresses experiences and impressions of Purdue, shows that, in most instances, there is strong feeling that there are not enough minority students at Purdue and the climate is somewhat unfriendly toward minorities (items 32 and 34) and no favoritism is shown by professors. There is also a feeling that there is poor communication between administration and students, a proper and conventional atmosphere where rules are enforced, and a tendency to be cold and impersonal where students are treated like numbers. Although there is a concensus that students are friendly and that an informal environment exists, there are a lot of student cliques. The primary strength of Purdue as perceived by most of the black respondents is in its intellectual climate where the teaching is excellent, the faculty friendly and approachable, and there is keen competition for grades. They felt that counselors are generally available and helpful and there is somewhat of a consensus that there is adequate tutorial assistance available to students.

Question 20 addressed itself to the kinds of adjustments students had to make upon entering Purdue. There were no significant differences between groups. The most frequently reported adjustments were "getting used to the social climate" (85%), "improving study habits" (72%) and "adjusting to less free time" (60%); 68% said these adjustments were difficult or very difficult.

Question 22 provided respondents with an opportunity to indicate whether or not they liked or disliked statements related to the need to achieve. Most repondents tended to "like" statements which reflect

a high need to achieve, e.g. returning to a task previously failed (70%), doing something over to get it right (81%) and tend to "dislike" activities that avoided achievement-oriented tasks, e.g. giving up on a problem (81%), quitting a difficult project too tough for me (83%). There were few differences between the groups; however, 94% of the persisters and 90% of the transfers, but only 40% of the withdrawals liked "setting difficult goals for myself". Fifty-five percent of the persisters but only 20% of the transfers and 10% of the withdrawals liked "working on tasks so difficult, I can hardly do them" and 88% of the persisters liked "working for someone who will accept nothing but the best that is in me" compared to 80% of the transfers and 30% of the withdrawals.

Appendix B includes questions addressed solely to those who persisted in engineering. The indications are strong that the Black American engineering persister knew upon entry what he desired to study and tended to stick with that decision. Most of them intended to get the B.S. and secure employment upon graduation (59%), but 31% indicated a desire to further their formal education either in engineering (21%) or another discipline (10%). There was concensus among persisters that the primary reason they persisted in engineering at Purdue were the excellent job opportunities (86%), financial rewards (75%) and prestige and satisfaction available (79%) in engineering. Persisters also indicated they were always very interested in engineering (68%), found the courses interesting (68%), there were learning (61%) and challenging (86%) experiences and opportunities to be creative and original (64%).

The respondents who transferred out of engineering answered the questions included in Appendix C. Of these 69% made the transfer in the third semester (from Electrical Engineering, 67%, and Aeronautical

Engineering, 33%, into either Industrial Management, Science or Technology, all receiving 33% of the transfers). The most common reason for transferring was poor performance in course work (67%). The other reasons listed, all receiving a 33% ranking, were: 1) engineering courses interesting but others more so, 2) engineering not what they thought it was, 3) friend interested them in another field, 4) interest and aptitude tests, 5) loneliness and 6) low spirits.

The withdrawals (respondents to Appendix D) typically withdrew at the end of the academic year, 42% after the second semester, 25% after the fourth semester and 17% after the sixth semester. At the time of their withdrawal 54% had attended 3 to 4 semesters and 36% had attended only 1 to 2 semesters. Most of this group initially chose Electrical Engineering (50%) with 17% having chosen Aeronautical or Civil Engineering. Forty-six percent had enrolled in another college or university, 27% had worked temporarily and another 27% permanently. However, 54% planned to return to Purdue in engineering, while another 9% indicated they would pursue engineering elsewhere; 67% indicated they would enroll in engineering at Purdue if they could do it over again. The major reasons for withdrawing from Purdue or engineering were again headed by academic difficulties (73%), low spirits (73%), followed by loneliness (54%), and pressure and strain (54%).

## V. Analysis of Pre-College and College Variables

To attain more complete data about black engineering persisters, transfers and withdrawals and their non-black counterparts, analyses of variance on over 25 variables were conducted. Table 3 presents a detailed summary of the analysis of variance results of black engineering

students that entered Purdue from 1967 to 1970 after four and nine semesters and for non-black engineering students that entered in 1969 and 1970 after four semesters. There were no significant mean differences on the College Board scores for black engineering persisters, transfers or withdrawals after four semesters except for the Chemistry Achievement examination where the mean scores were highest for the persisters (571), followed by withdrawals (475) and the transfers (437). The College Board scores for non-black students who entered in 1969 usually are significantly different for those who persist, transfer or withdraw. When comparing the means for the black vs. non-black students, it is readily seen that there is a difference of from a half to a full standard deviation (50-100 points) on each of the College Board scores. It is interesting to note that the persisters among the black students tend to take about the same number of semesters of mathematics and science, as the non-black students; the analysis of variance shows no significant difference in means between black persisters, transfers and withdrawals and similar results for non-black students in 1969. However, in 1970 non-black persisters tend to have slightly more English, mathematics and science as well as higher high school grades in each area. The high school rank of black and non-black persisters is usually higher than the non-persisters, but not statistically significant after four semesters for black students.

At the college level, most of the variables were statistically significant for both the black and the non-black students. Typically the non-black students consistently achieve higher grades and accumulate more hours than does the black student. Also, the persisters among both the black and non-black students have higher grades and accumulate more credits than the transfers or withdrawals.

Upon analyzing, the same variables as before (for black students only), but after nine semesters, even more significant differences were observed for black students. Two pre-college variables, SAT-Mathematics and Chemistry Achievement scores are statistically significant and are higher for persisters than for transfers or withdrawals. High school work also is now statistically significant. In all college variables the persisters perform at the highest level followed by the transfers and then withdrawals.

## VI. Summary and Conclusions

In summary, it can been seen that Black Americans who chose Purdue did so because of its academic quality, the variety of programs offered, the prestige of the university, as well as affording them a chance to attend college away from home. Those who arrived at their decision to study engineering did so because of the salary, security and prestige of an engineering career as well as having a genuine interest in the area and an interest in problem solving. The transfers and withdrawals were more apt to indicate that outside influences, i.e. parents, teachers, counselors and friends, played a large role in their decision to enter Purdue and engineering.

Academic difficulties and interests combined with personal problems, i.e. loneliness, pressure, being a member of a minority group, etc., were the apparent factors in the decisions of many to transfer or withdraw. The academic difficulties indicated in the survey are borne out also when analysing the academic pre-college and college profiles. Those who transferred and even more so the withdrawals were not as likely to take advantage of programs and organizations designed to help

black students including the various counseling, tutoring and professional groups such as the Society of Black Engineers. Those who persist in engineering seem to be more achievement oriented and were more willing to devote many hours of study to achieve their goals than were the transfers or withdrawals.

When viewing the entire survey and its implications, several tentative conclusions can be drawn. Black students that persist in engineering tend to have similar backgrounds to those who transfer or withdraw, but there are differences in the extent to which they participate in various programs designed to retain them in engineering. Perhaps greater efforts should be made to encourage their participation in activities such as the Counselor Tutorial program and the Society of Black Engineers. Purdue University can take pride in the fact that the programs developed to aid in the retention of black students in engineering have served a definite positive function by providing needed services in both academic and social areas. However, the university should also be sensitive to the fact that minority students believe that there should be more minority students, that they should be given special consideration at and after admission and that many minority students view the climate as unfriendly to minority students.

A last but very important point should be made. A black engineering student's academic performance and retention are not as likely to be measured by traditional means, i.e. College Board scores, high school grades and credits. However, college performance does provide the best measure of academic performance and retention. Therefore continued admissions of black students based on their past successes with relation to their peers in high school and continued supportive programs in college appear to be the keys to assuring blacks equal access to engineering careers.

TABLE 3

SUMMARY OF ANALYSIS OF VARIANCE RESULTS FOR PRE-COLLEGE AND COLLEGE VARIABLES FOR PERSISTERS, TRANSFERS AND WITHDRAWALS AFTER FOUR AND NINE SEMESTERS FOR 1967-70 BLACK STUDENTS AND AFTER FOUR SEMESTERS FOR 1969 AND 1970 NON-BLACK STUDENTS

| | | BLACK | | | | NON-BLACK | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1967-70 | | | | 1969 | | 1970 | |
| | | 4 Semesters | | 9 Semesters | | 4 Semesters | | 4 Semesters | |
| Variable | Group | Mean | F | Mean | F | Mean | F | Mean | F |
| SAT-Verbal | Persisters | 483 | 2.47 | 490 | 1.79 | 533 | 19.53 | 535 | 8.49 |
| | Transfers | 447 | | 456 | | 502 | *** | 510 | *** |
| | Withdrawals | 431 | | 441 | | 501 | | 519 | |
| | Total | 460 | | 460 | | 522 | | 527 | |
| SAT-Mathematics | Persisters | 543 | 1.91 | 578 | 6.10 | 646 | 32.16 | 643 | 19.38 |
| | Transfers | 500 | | 492 | ** | 608 | *** | 609 | *** |
| | Withdrawals | 500 | | 504 | | 616 | | 628 | |
| | Total | 521 | | 521 | | 634 | | 633 | |
| Achievement-English | Persisters | 479 | 1.00 | 497 | 2.54 | 535 | 14.17 | 535 | 5.11 |
| | Transfers | 456 | | 467 | | 511 | *** | 514 | ** |
| | Withdrawals | 447 | | 447 | | 503 | | 522 | |
| | Total | 466 | | 466 | | 525 | | 528 | |
| Achievement-Mathematics | Persisters | 539[2] | .95 | 604[2] | 2.43 | 637 | .30 | 648[2] | 24.09 |
| | Transfers | 458 | | 515 | | 606 | | 606 | *** |
| | Withdrawals | 489 | | 484 | | 633 | | 623 | |
| | Total | 516 | | 516 | | 627 | | 634 | |
| Achievement-Chemistry | Persisters | 521 | 5.80 | 543 | 6.7[illegible] | 564 | 33.52 | 577 | 30.19 |
| | Transfers | 437 | ** | 46[illegible] | ** | 514 | *** | 520 | *** |
| | Withdrawals | 475 | | 460 | | 514 | | 537 | |
| | Total | 492 | | 492 | | 547 | | 537 | |
| High School Units-English | Persisters | 7.8 | 1.24 | 8.0 | .031 | 8.2 | 2.96 | 8.0 | 8.92 |
| | Transfers | 8.1 | | 8.0 | * | 8.1 | | 7.6 | *** |
| | Withdrawals | 8.1 | | 8.0 | | 8.1 | | 8.0 | |
| | Total | 8.0 | | 8.0 | | 8.2 | | 7.9 | |
| High School Units-Mathematics | Persisters | 7.8 | .81 | 7.9 | .065 | 8.1 | 2.93 | 8.2 | 10.32 |
| | Transfers | 8.3 | | 8.0 | | 8.0 | | 7.7 | *** |
| | Withdrawals | 7.9 | | 7.9 | | 8.1 | | 8.3 | |
| | Total | 7.9 | | 7.9 | | 8.1 | | 8.1 | |
| High School Units-Science | Persisters | 6.7 | .14 | 6.9 | 1.17 | 6.4 | 4.12 | 7.0 | 7.72 |
| | Transfers | 6.6 | | 6.3 | | 6.1 | * | 6.5 | *** |
| | Withdrawals | 6.4 | | 6.5 | | 6.3 | | 6.9 | |
| | Total | 6.6 | | 6.6 | | 6.4 | | 6.8 | |
| High School Grade-English[1] | Persisters | 6.3[2] | 1.03 | 5.5[2] | 1.11 | 7.7[2] | 4.00 | 6.5 | 16.00 |
| | Transfers | 6.0 | | 6.5 | | --- | | 6.1 | *** |
| | Withdrawals | 5.3 | | 5.4 | | 5.0 | | 5.9 | |
| | Total | 5.9 | | 5.9 | | 7.0 | | 6.3 | |

[1]High School Grade - 9=A, 8=A-, 7=B+, 6=B, 5=B-, 4=C+, 3=C, 2=C-, 1=D or F.

[2]Based on less than 25 cases

* $p < .05$, ** $p < .01$, *** $p < .001$

| | | BLACK 1967-70 | | | | NON-BLACK 1969 | | NON-BLACK 1970 | |
|---|---|---|---|---|---|---|---|---|---|
| | | 4 Semesters | | 9 Semesters | | 4 Semesters | | 4 Semesters | |
| Variable | Group | Mean | F | Mean | F | Mean | F | Mean | F |
| High School Grade-Mathematics[1] | Persisters | 5.9[2] | .29 | 6.0[2] | 1.12 | 7.3[2] | .02 | 7.4 | 26.21 |
| | Transfers | 5.7 | | 6.3 | | --- | | 6.7 | |
| | Withdrawals | 5.1 | | 4.9 | | 7.0 | | 6.7 | |
| | Total | 5.6 | | 5.6 | | 7.3 | | 7.1 | |
| High School Grade-Science[1] | Persisters | 6.3[2] | 1.56 | 5.5[2] | .276 | 7.3[2] | 1.75 | 7.2 | 31.66 |
| | Transfers | 6.0 | | 5.9 | | --- | | 6.4 | *** |
| | Withdrawals | 5.3 | | 6.2 | | 5.0 | | 6.4 | |
| | Total | 5.9 | | 6.0 | | 6.8 | | 6.9 | |
| High School Rank | Persisters | 87.2 | 2.63 | 89.3 | 4.06 | 87.2 | 35.24 | 86.6 | 31.99 |
| | Transfers | 85.6 | | 86.3 | * | 83.3 | *** | 77.5 | *** |
| | Withdrawals | 78.2 | | 77.8 | | 80.2 | | 81.5 | |
| | Total | 84.0 | | 84.0 | | 85.3 | | 83.8 | |
| Mathematics Grade-Sem 1[3] | Persisters | 4.1 | 5.79 | 4.2 | 3.5 | 4.9 | 93.95 | 4.8 | 85.09 |
| | Transfers | 3.4 | ** | 3.5 | * | 4.3 | *** | 4.1 | *** |
| | Withdrawals | 3.1 | | 3.3 | | 3.8 | | 3.8 | |
| | Total | 3.6 | | 3.6 | | 4.6 | | 4.5 | |
| Chemistry Grade-Sem 1[3] | Persisters | 4.0 | 6.38 | 4.4 | 6.7 | 4.7 | 51.36 | 4.6 | 66.35 |
| | Transfers | 3.9 | ** | 3.6 | ** | 4.2 | *** | 4.0 | *** |
| | Withdrawals | 2.9 | | 3.1 | | 3.8 | | 3.7 | |
| | Total | 3.7 | | 3.7 | | 4.5 | | 4.3 | |
| Physics Grade-Sem 1[3] | Persisters | No Data Available | | | | 4.9 | 5.01 | 5.1 | 1.67 |
| | Transfers | | | | | 4.3 | ** | 4.6 | |
| | Withdrawals | | | | | 4.2 | | 4.8 | |
| | Total | | | | | 4.8 | | 5.0 | |
| Communications Grade-Sem 1[3] (or English) | Persisters | 4.9 | 9.54 | 4.8 | 2.96 | 4.7 | 33.70 | 4.9 | 28.43 |
| | Transfers | 4.4 | *** | 4.5 | | 4.5 | *** | 4.7 | *** |
| | Withdrawals | 3.7 | | 4.1 | | 4.2 | | 4.3 | |
| | Total | 4.4 | | 4.4 | | 4.6 | | 4.7 | |
| Sem-1 Hours | Persisters | 15.4 | 7.85 | 15.8 | 5.16 | 16.2 | 82.95 | 16.2 | 81.87 |
| | Transfers | 14.4 | ** | 14.1 | ** | 15.1 | *** | 15.1 | *** |
| | Withdrawals | 12.7 | | 13.4 | | 14.1 | | 13.8 | |
| | Total | 14.3 | | 14.3 | | 15.6 | | 15.5 | |
| Sem-2 Hours | Persisters | 15.4 | 4.62 | 15.1 | .92 | 16.1 | 87.55 | 16.2 | 78.52 |
| | Transfers | 14.2 | * | 13.9 | | 14.9 | *** | 14.8 | *** |
| | Withdrawals | 13.1 | | 14.4 | | 13.0 | | 13.4 | |
| | Total | 14.5 | | 14.4 | | 15.4 | | 15.4 | |
| Sem-3 Hours | Persisters | 12.3 | 1.75 | 14.2 | 6.15 | 13.8 | 25.12 | 14.0 | 1.75 |
| | Transfers | 13.9 | | 12.7 | ** | 15.2 | *** | 14.6 | |
| | Withdrawals | 10.4 | | 9.1 | | ---- | | 10.9 | |
| | Total | 12.4 | | 12.4 | | 14.1 | | 14.0 | |
| Sem-4 Hours | Persisters | 12.3 | 1.26 | 12.1 | | No Data Available | | | |
| | Transfers | 14.0 | | 13.9 | | | | | |
| | Withdrawals | ---- | | 12.0 | | | | | |
| | Total | 12.9 | | 12.9 | | | | | |

[3]College Grade - 6=A, 5=B, 4=C, 3=D, 2=F

| | | BLACK 1967-70 | | | | NON-BLACK 1969 | | NON-BLACK 1970 | |
|---|---|---|---|---|---|---|---|---|---|
| | | 4 Semesters | | 9 Semesters | | 4 Semesters | | 4 Semesters | |
| Variable | Group | Mean | F | Mean | F | Mean | F | Mean | F |
| Sem-1 GPA | Persisters | 4.4 | 11.92 | 4.5 | 7.22 | 4.8 | 132.63 | 4.8 | 112.63 |
| | Transfers | 3.9 | *** | 3.9 | *** | 4.4 | *** | 4.3 | *** |
| | Withdrawals | 3.4 | | 3.6 | | 4.0 | | 4.0 | |
| | Total | 4.0 | | 3.9 | | 4.6 | | 4.6 | |
| Sem-2 GPA | Persisters | 4.2 | 15.50 | 4.4 | 13.25 | 4.7 | 122.27 | 4.8 | 66.97 |
| | Transfers | 4.1 | *** | 3.8 | *** | 4.4 | *** | 4.4 | *** |
| | Withdrawals | 3.1 | | 3.3 | | 3.6 | | 4.0 | |
| | Total | 3.8 | | 3.8 | | 4.5 | | 4.6 | |
| Sem-3 GPA | Persisters | 4.0 | 10.76 | 4.1 | 3.6 | 4.7 | 5.8 | 4.7 | 1.82 |
| | Transfers | 3.8 | *** | 3.8 | * | 4.6 | *** | 4.6 | *** |
| | Withdrawals | 2.6 | | 3.2 | | 3.1 | | 3.2 | |
| | Total | 3.7 | | 3.7 | | 4.6 | | 4.6 | |
| Sem-4 GPA | Persisters | 3.9 | 1.42 | 4.2 | 5.3 | No Data Available | | | |
| | Transfers | 4.2 | | 4.1 | ** | | | | |
| | Withdrawals | --- | | 3.3 | | | | | |
| | Total | 4.0 | | 4.0 | | | | | |
| Grad Hours-2 | Persisters | 30.1 | 12.47 | 30.5 | 5.47 | 38.3 | 4.02 | 32.2 | 133.68 |
| | Transfers | 26.7 | *** | 26.1 | ** | 35.4 | * | 29.5 | *** |
| | Withdrawals | 24.1 | | 26.7 | | 43.8 | | 26.9 | |
| | Total | 27.6 | | 27.6 | | 38.5 | | 30.8 | |
| Grad Hours-3 | Persisters | 41.9 | 4.34 | 45.0 | 7.89 | 51.9 | 16.26 | 46.5 | 4.67 |
| | Transfers | 39.6 | * | 38.4 | *** | 48.8 | *** | 43.5 | * |
| | Withdrawals | 33.6 | | 35.5 | | 42.0 | | 35.3 | |
| | Total | 40.0 | | 40.0 | | 50.7 | | 45.2 | |
| Grad Hours-4 | Persisters | 52.3 | .65 | 56.8 | 7.9 | No Data Available | | | |
| | Transfers | 49.7 | | 51.3 | *** | | | | |
| | Withdrawals | ---- | | 42.5 | | | | | |
| | Total | 51.5 | | 51.5 | | | | | |
| Grad GPA-2 | Persisters | 4.3 | 22.51 | 4.4 | 12.24 | 4.8 | 118.6 | 4.8 | 97.45 |
| | Transfers | 4.1 | *** | 4.0 | *** | 4.4 | *** | 4.4 | *** |
| | Withdrawals | 3.3 | | 3.5 | | 3.9 | | 4.1 | |
| | Total | 4.0 | | 4.0 | | 4.6 | | 4.6 | |
| Grad GPA-3 | Persisters | 4.3 | 14.62 | 4.4 | 7.66 | 4.8 | 15.0 | 4.8 | 19.86 |
| | Transfers | 4.1 | *** | 4.1 | *** | 4.5 | *** | 4.5 | *** |
| | Withdrawals | 3.4 | | 3.7 | | 3.8 | | 3.8 | |
| | Total | 4.1 | | 4.1 | | 4.7 | | 4.7 | |
| Grad GPA-4 | Persisters | 4.3 | .00 | 4.5 | 7.13 | No Data Available | | | |
| | Transfers | 4.3 | ** | 4.3 | ** | | | | |
| | Withdrawals | --- | | 3.9 | | | | | |
| | Total | 4.3 | | 4.3 | | | | | |

| | | No. | % | No. | % | No. | % | No. | % |
|---|---|---|---|---|---|---|---|---|---|
| No. of Cases | Persisters | 39 | 48.1 | 23 | 28.4 | 872 | 64.8 | 679 | 61.0 |
| | Transfers | 16 | 19.8 | 27 | 33.3 | 246 | 18.3 | 234 | 21.0 |
| | Withdrawals | 22 | 32.1 | 31 | 38.1 | 229 | 16.9 | 201 | 18.0 |
| | Total | 81 | 100.0 | 81 | 100.0 | 1346 | 100.0 | 1114 | 100.0 |

Only complete data cases used in analysis.

## APPENDIX A

### PERCENTAGE OF TOTAL RESPONSES TO THE SURVEY OF CURRENT AND FORMER PURDUE ENGINEERING STUDENTS

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| (Number of Cases) | (59) | (33) | (10) | (19) |
| 1. Did you graduate from an Indiana high school? | | | | |
| 1. No | 53 | 61 | 40 | 40 |
| 2. Yes | 47 | 39 | 60 | 60 |
| 2. Are you enrolled in a college or university this semester? | | | | |
| 1. Yes, undergraduate, full-time | 81 | 94 | 90 | 30*** |
| 2. Yes, undergraduate, part-time | 2 | 0 | 0 | 10 |
| 3. Yes, graduate, full-time | 0 | 0 | 0 | 0 |
| 4. Yes, graduate, part-time | 0 | 0 | 0 | 0 |
| 5. No | 17 | 6 | 10 | 60 |
| 3. For each reason listed below, place a check to indicate the extent to which it influenced your decision to attend Purdue. | | | | |
| 1. Geographical location | | | | |
| Very; some | 55 | 61 | 40 | 50 |
| Little; none | 45 | 39 | 60 | 50 |
| 2. Close to home | | | | |
| Very; some | 44 | 44 | 40 | 50 |
| Little; none | 56 | 56 | 60 | 50 |
| 3. Wanted to go away to college | | | | |
| Very; some | 71 | 75 | 60 | 70 |
| Little; none | 29 | 25 | 40 | 30 |
| 4. Academic quality of college | | | | |
| Very; some | 94 | 100 | 70 | 100*** |
| Little; none | 6 | 0 | 30 | 0 |
| 5. Lower cost | | | | |
| Very; some | 40 | 39 | 40 | 40 |
| Little; none | 60 | 61 | 60 | 60 |
| 6. Prestige of the institution | | | | |
| Very; some | 83 | 88 | 90 | 60 |
| Little; none | 17 | 12 | 10 | 40 |
| 7. Type of academic program | | | | |
| Very; some | 92 | 94 | 90 | 90 |
| Little; none | 8 | 6 | 10 | 10 |
| 8. Coeducation | | | | |
| Very; some | 42 | 39 | 30 | 60 |
| Little; none | 58 | 61 | 70 | 40 |
| 9. Public institution | | | | |
| Very; some | 26 | 21 | 20 | 50 |
| Little; none | 74 | 79 | 80 | 50 |
| 10. Physical facilities | | | | |
| Very; some | 47 | 42 | 60 | 50 |
| Little; none | 53 | 58 | 40 | 50 |
| 11. Large institution | | | | |
| Very; some | 51 | 52 | 60 | 40 |
| Little; none | 49 | 48 | 40 | 60 |
| 12. Variety of programs offered | | | | |
| Very; some | 71 | 81 | 40 | 70* |
| Little; none | 29 | 19 | 60 | 30 |
| 13. Parents' encouragement | | | | |
| Very; some | 43 | 36 | 50 | 60 |
| Little; none | 57 | 64 | 50 | 40 |
| 14. Teachers' encouragement | | | | |
| Very; some | 31 | 21 | 40 | 56 |
| Little; none | 69 | 79 | 60 | 44 |
| 15. Counselor's encouragement | | | | |
| Very; some | 30 | 30 | 20 | 40 |
| Little; none | 70 | 70 | 80 | 60 |
| 16. Other adult encouragement | | | | |
| Very; some | 36 | 36 | 20 | 50 |
| Little; none | 64 | 64 | 80 | 50 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 17. Friend's encouragement | | | | |
| Very; some | 28 | 27 | 10 | 50* |
| Little; none | 64 | 64 | 80 | 50 |
| 18. Non-Purdue college friend's encouragement | | | | |
| Very; some | 12 | 13 | 0 | 20 |
| Little; none | 72 | 73 | 90 | 50 |
| 19. High school friends | | | | |
| Very; some | 21 | 15 | 10 | 50** |
| Little; none | 79 | 85 | 90 | 50 |
| 20. Older brothers and sisters | | | | |
| Very; some | 21 | 18 | 30 | 20 |
| Little; none | 79 | 82 | 70 | 80 |
| 21. Special programs available | | | | |
| Very; some | 30 | 36 | 20 | 20 |
| Little; none | 70 | 64 | 80 | 80 |
| 22. Received scholarship | | | | |
| Very; some | 36 | 30 | 50 | 40 |
| Little; none | 64 | 70 | 50 | 60 |
| 23. Only institution admitted into | | | | |
| Very; some | 2 | 0 | 0 | 11 |
| Little; none | 98 | 100 | 100 | 89 |
| 4. Do you feel minority students should get special consideration in being admitted at Purdue? | | | | |
| 1. At admission? | | | | |
| Yes | 57 | 64 | 30 | 60 |
| No | 7 | 3 | 10 | 20 |
| In some instances | 34 | 30 | 60 | 20 |
| No opinion | 2 | 3 | 0 | 0 |
| 2. After being admitted? | | | | |
| Yes | 55 | 67 | 22 | 50 |
| No | 17 | 2 | 33 | 30 |
| In some instances | 25 | 21 | 44 | 20 |
| No opinion | 2 | 3 | 0 | 0 |
| 5. When did you decide that you wanted to be an engineer? | | | | |
| 1. 6th grade or earlier | 15 | 18 | 10 | 10 |
| 2. 7th-8th grade | 6 | 6 | 0 | 10 |
| 3. 8th-9th grade | 9 | 12 | 0 | 10 |
| 4. High school freshman | 11 | 3 | 30 | 20 |
| 5. High school sophomore | 13 | 15 | 20 | 0 |
| 6. High school junior | 17 | 15 | 10 | 30 |
| 7. High school senior | 11 | 12 | 20 | 0 |
| 8. Between high school and college | 13 | 12 | 10 | 20 |
| 9. After beginning co-op | 2 | 3 | 0 | 0 |
| 10. "Just always wanted to" | 2 | 3 | 0 | 0 |
| 6. Which of the following college degrees or diplomas have you earned or do you plan to earn? | | | | |
| 1. None | | | | |
| Have received | Not Applicable | | | |
| Plan to obtain | | | | |
| 2. Junior college diploma | | | | |
| Have received | 2 | 0 | 11 | 0 |
| Plan to obtain | 6 | 0 | 10 | 20* |
| 3. Bachelor's degree | | | | |
| Have received | 8 | 6 | 22 | 0 |
| Plan to obtain | 74 | 93 | 70 | 100 |
| 4. Master's degree | | | | |
| Have received | 0 | 0 | 0 | 0 |
| Plan to obtain | 57 | 61 | 50 | 50 |
| 5. Doctoral degree (Ph.D., Ed.D., L.L.B., M.D., D.D.S., etc.) | | | | |
| Have received | 0 | 0 | 0 | 0 |
| Plan to obtain | 21 | 26 | 0 | 50 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 7. How important was each of the following in your decision to study engineering? | | | | |
| 1. Mother | | | | |
| Very; fairly | 44 | 42 | 44 | 50 |
| Minor; none | 56 | 58 | 56 | 50 |
| 2. Father | | | | |
| Very; fairly | 49 | 48 | 44 | 56 |
| Minor; none | 51 | 52 | 56 | 44 |
| 3. Older brothers or sisters | | | | |
| Very; fairly | 26 | 22 | 33 | 30 |
| Minor; none | 74 | 78 | 67 | 70 |
| 4. Other relatives | | | | |
| Very; fairly | 20 | 19 | 22 | 20 |
| Minor; none | 80 | 81 | 78 | 80 |
| 5. Friends not in engineering | | | | |
| Very; fairly | 25 | 24 | 11 | 40 |
| Minor; none | 75 | 76 | 89 | 60 |
| 6. Engineers you know personally | | | | |
| Very; fairly | 27 | 30 | 22 | 20 |
| Minor; none | 73 | 70 | 78 | 80 |
| 7. Engineers you have heard about | | | | |
| Very; fairly | 37 | 38 | 11 | 60 |
| Minor; none | 63 | 62 | 89 | 40 |
| 8. Engineering students you know | | | | |
| Very; fairly | 35 | 36 | 33 | 30 |
| Minor; none | 65 | 64 | 67 | 70 |
| 9. Teachers in high school | | | | |
| Very; fairly | 38 | 27 | 44 | 70* |
| Minor; none | 62 | 73 | 56 | 30 |
| 10. High school counselors | | | | |
| Very; fairly | 35 | 27 | 22 | 70* |
| Minor; none | 65 | 73 | 78 | 30 |
| 11. College counselors | | | | |
| Very; fairly | 33 | 27 | 33 | 50 |
| Minor; none | 67 | 73 | 67 | 50 |
| 12. Interest and aptitude tests | | | | |
| Very; fairly | 60 | 58 | 44 | 80 |
| Minor; none | 65 | 72 | 67 | 40 |
| 13. Vocational - educational information | | | | |
| Very; fairly | 35 | 28 | 33 | 60 |
| Minor; none | 65 | 72 | 67 | 40 |
| 14. Books or periodicals | | | | |
| Very; fairly | 50 | 46 | 33 | 80 |
| Minor; none | 50 | 54 | 67 | 20 |
| 15. Radio, T.V., newspapers | | | | |
| Very; fairly | 55 | 53 | 44 | 70 |
| Minor; none | 45 | 47 | 56 | 30 |
| 16. Independence (work on your own) | | | | |
| Very; fairly | 69 | 69 | 56 | 80 |
| Minor; none | 31 | 31 | 44 | 20 |
| 17. Security of the profession | | | | |
| Very; fairly | 75 | 76 | 56 | 90 |
| Minor; none | 25 | 24 | 44 | 10 |
| 18. Opportunity to get ahead rapidly | | | | |
| Very; fairly | 80 | 82 | 67 | 90 |
| Minor; none | 20 | 18 | 33 | 10 |
| 19. Leadership in the profession | | | | |
| Very; fairly | 67 | 70 | 56 | 70 |
| Minor; none | 33 | 30 | 44 | 30 |
| 20. Work experiences | | | | |
| Very; fairly | 58 | 58 | 44 | 70 |
| Minor; none | 42 | 42 | 56 | 30 |
| 21. High school subjects | | | | |
| Very; fairly | 65 | 64 | 44 | 90 |
| Minor; none | 35 | 36 | 56 | 10 |
| 22. Hobbies | | | | |
| Very; fairly | 62 | 52 | 56 | 100* |
| Minor; none | 38 | 48 | 44 | 0 |
| 23. Visit to industrial plant | | | | |
| Very; fairly | 38 | 27 | 22 | 90*** |
| Minor; none | 62 | 73 | 78 | 10 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 24. Experience in armed services | | | | |
| Very; fairly | 14 | 12 | 0 | 30 |
| Minor; none | 86 | 88 | 100 | 70 |
| 25. Engineering as stepping stone | | | | |
| Very; fairly | 48 | 53 | 25 | 50 |
| Minor; none | 52 | 47 | 75 | 50 |
| 26. Interest in problem solving | | | | |
| Very; fairly | 79 | 76 | 78 | 90 |
| Minor; none | 21 | 24 | 22 | 10 |
| 27. I thought I would like the type of work. | | | | |
| Very; fairly | 78 | 75 | 78 | 90 |
| Minor; none | 22 | 25 | 22 | 10 |
| 28. Salary of the profession | | | | |
| Very; fairly | 83 | 85 | 67 | 90 |
| Minor; none | 17 | 15 | 33 | 10 |
| 29. Prestige of the profession | | | | |
| Very; fairly | 74 | 78 | 56 | 80 |
| Minor; none | 26 | 22 | 44 | 20 |
| 30. Being of service to others | | | | |
| Very; fairly | 58 | 61 | 56 | 50 |
| Minor; none | 42 | 39 | 44 | 50 |
| 8. Did you seek tutorial assistance while at Purdue? | | | | |
| 1. Yes | 62 | 64 | 56 | 60 |
| 2. No | 38 | 36 | 44 | 40 |
| A. If yes, from whom? | | | | |
| Classmates | 40 | 45 | 40 | 20 |
| Professors | 38 | 42 | 40 | 20 |
| Teaching assistants | 49 | 54 | 40 | 40 |
| Counselor-Tutorial class | 40 | 42 | 20 | 50 |
| B. If no, why not? | | | | |
| Did not need tutoring | 21 | 17 | 20 | 40 |
| Did not know about available tutoring services | 15 | 12 | 20 | 20 |
| Did not think it would be beneficial | 21 | 21 | 20 | 20 |
| 9. How helpful was the tutorial assistance you received? | | | | |
| A. In a Counselor-Tutorial class? | | | | |
| Extremely helpful | 30 | 35 | 0 | 33** |
| Helpful | 27 | 25 | 25 | 33 |
| Had no effect | 7 | 0 | 50 | 0 |
| Slightly confusing | 3 | 0 | 0 | 17 |
| Very confusing | 0 | 0 | 0 | 0 |
| Was not enrolled | 33 | 40 | 25 | 17 |
| B. From other tutorial assistance? | | | | |
| Extremely helpful | 34 | 40 | 14 | 40 |
| Helpful | 50 | 55 | 57 | 20 |
| Had no effect | 12 | 0 | 29 | 40 |
| Slightly confusing | 0 | 0 | 0 | 0 |
| Very confusing | 3 | 5 | 0 | 0 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 10. The programs below are designed to help high school and college students. | | | | |
| A. Check if participated: | | | | |
| 1. Society of Black Engineers | | | | |
| Yes | 70 | 88 | 20 | 33*** |
| No | 30 | 12 | 80 | 67 |
| 2. Black Cultural Center | | | | |
| Yes | 61 | 68 | 57 | 44 |
| No | 39 | 32 | 43 | 56 |
| 3. Counselor-Tutorial class | | | | |
| Yes | 42 | 44 | 20 | 44 |
| No | 58 | 56 | 80 | 56 |
| 4. Black Studies Program | | | | |
| Yes | 22 | 19 | 33 | 22 |
| No | 78 | 81 | 67 | 78 |
| 5. Fraternity/sorority | | | | |
| Yes | 28 | 24 | 40 | 33 |
| No | 72 | 76 | 60 | 67 |
| 6. Professional Engineering Society | | | | |
| Yes | 36 | 48 | 33 | 0* |
| No | 64 | 52 | 67 | 100 |
| 7. Cooperative program | | | | |
| Yes | 22 | 29 | 17 | 11 |
| No | 78 | 71 | 83 | 89 |
| 8. Upward Bound | | | | |
| Yes | 13 | 13 | 17 | 11 |
| No | 87 | 87 | 83 | 89 |
| 9. Bridge Program | | | | |
| Yes | 8 | 9 | 17 | 0 |
| No | 92 | 91 | 83 | 100 |
| B. Regardless of participation, rate your appraisal of each: | | | | |
| 1. Society of Black Engineers | | | | |
| Excellent; good | 94 | 97 | 100 | 75* |
| Fair; poor | 6 | 3 | 0 | 25 |
| 2. Black Cultural Center | | | | |
| Excellent; good | 69 | 75 | 50 | 67 |
| Fair; poor | 31 | 25 | 50 | 33 |
| 3. Counselor-Tutorial class | | | | |
| Excellent; good | 77 | 77 | 75 | 78 |
| Fair; poor | 23 | 23 | 25 | 22 |
| 4. Black Studies Program | | | | |
| Excellent; good | 67 | 64 | 75 | 67 |
| Fair; poor | 33 | 36 | 25 | 33 |
| 5. Fraternity/sorority | | | | |
| Excellent; good | 25 | 18 | 50 | 22 |
| Fair; poor | 75 | 82 | 50 | 78 |
| 6. Professional Engineering Society | | | | |
| Excellent; good | 64 | 67 | 75 | 44 |
| Fair; poor | 36 | 33 | 25 | 56 |
| 7. Cooperative program | | | | |
| Excellent; good | 84 | 85 | 75 | 89 |
| Fair; poor | 16 | 15 | 25 | 11 |
| 8. Upward Bound | | | | |
| Excellent; good | 72 | 76 | 78 | 56 |
| Fair; poor | 28 | 24 | 22 | 44 |
| 9. Bridge Program | | | | |
| Excellent; good | 64 | 67 | 78 | 44 |
| Fair; poor | 36 | 33 | 22 | 56 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 11. How important are/were each of the following reasons for your career choice? | | | | |
| 1. Job openings are generally available. | | | | |
| Very | 69 | 70 | 89 | 50 |
| Somewhat | 25 | 24 | 0 | 50 |
| None | 6 | 6 | 11 | 0 |
| 2. I enjoy working with the kind of people involved. | | | | |
| Very | 36 | 27 | 44 | 60 |
| Somewhat | 50 | 54 | 56 | 30 |
| None | 14 | 18 | 0 | 10 |
| 3. This is a well-paying career. | | | | |
| Very | 69 | 70 | 67 | 70 |
| Somewhat | 29 | 30 | 33 | 20 |
| None | 2 | 0 | 0 | 10 |
| 4. Persons in this career are less vulnerable to military service. | | | | |
| Very | 0 | 0 | 0 | 0 |
| Somewhat | 21 | 24 | 33 | 0 |
| None | 79 | 76 | 67 | 100 |
| 5. This choice satisfies my parents' hopes. | | | | |
| Very | 14 | 9 | 11 | 30 |
| Somewhat | 33 | 33 | 33 | 30 |
| None | 54 | 58 | 56 | 40 |
| 6. I feel this enables me to make an important contribution to society. | | | | |
| Very | 50 | 45 | 78 | 40 |
| Somewhat | 35 | 42 | 0 | 40 |
| None | 15 | 12 | 22 | 20 |
| 7. There are opportunities for rapid career advancement. | | | | |
| Very | 64 | 67 | 56 | 60* |
| Somewhat | 33 | 33 | 44 | 20 |
| None | 4 | 0 | 0 | 20 |
| 8. There are opportunities for freedom of action. | | | | |
| Very | 50 | 54 | 33 | 50 |
| Somewhat | 44 | 39 | 67 | 40 |
| None | 6 | 6 | 0 | 10 |
| 12. How have you financed your college and living expenses? (undergraduate) | | | | |
| 1. Support from your parents | 56 | 64 | 30 | 90 |
| 2. Support from your spouse | 7 | 9 | 0 | 10 |
| 3. Federal scholarship, fellowship or grant | 37 | 33 | 70 | 40 |
| 4. State scholarship, fellowship or grant | 19 | 18 | 40 | 10 |
| 5. Other scholarship, fellowship or grant | 41 | 55 | 30 | 30 |
| 6. Federal loan | 39 | 36 | 60 | 50 |
| 7. Other loan | 19 | 24 | 20 | 10 |
| 8. College work-study program | 37 | 36 | 50 | 50 |
| 9. Research assistantship | 2 | 3 | 0 | 0 |
| 10. Teaching assistantship | 2 | 3 | 0 | 0 |
| 11. Employment | 59 | 70 | 60 | 60 |
| 12. Other sources (savings, etc.) | 37 | 42 | 20 | 60 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 13. Which of the following have you done since entering college? | | | | |
| 1. Got married | 21 | 18 | 30 | 20 |
| 2. Changed major field | 44 | 21 | 100 | 50*** |
| 3. Changed career choice | 35 | 18 | 70 | 50** |
| 4. Failed one or more courses | 65 | 61 | 80 | 60 |
| 5. Graduated with honors | 0 | 0 | 0 | 0 |
| 6. Was elected to student office | 10 | 18 | 0 | 0 |
| 7. Joined a social fraternity, sorority or club | 33 | 36 | 30 | 30 |
| 8. Authored or co-authored a published article | 12 | 14 | 20 | 0 |
| 9. Was elected to an academic honor society | 2 | 4 | 0 | 0 |
| 10. Participated in student protests or demonstrations | 25 | 18 | 50 | 20 |
| 11. Dropped out of college temporarily (exclude transferring) | 40 | 21 | 50 | 80** |
| 12. Dropped out of college permanently | 2 | 0 | 0 | 10 |
| 13. Transferred to another college before graduating | 19 | 18 | 0 | 40 |
| 15. Have you discussed vocational and career plans or a possible change in major field with any of the following persons? | | | | |
| 1. College advisor | | | | |
| Often or sometimes | 64 | 59 | 78 | 67 |
| Never | 36 | 41 | 22 | 33 |
| 2. Academic dean | | | | |
| Often or sometimes | 29 | 17 | 57 | 44 |
| Never | 71 | 83 | 43 | 56* |
| 3. Residence hall counselor | | | | |
| Often or sometimes | 17 | 10 | 50 | 11 |
| Never | 83 | 90 | 50 | 89** |
| 4. Guidance counselor | | | | |
| Often or sometimes | 40 | 32 | 50 | 54 |
| Never | 60 | 68 | 50 | 44 |
| 5. Friend | | | | |
| Often or sometimes | 88 | 83 | 100 | 89 |
| Never | 12 | 17 | 0 | 11 |
| 6. Professor or instructor | | | | |
| Often or sometimes | 59 | 66 | 50 | 44 |
| Never | 41 | 34 | 50 | 56 |
| 7. Placement counselor or director | | | | |
| Often or sometimes | 37 | 41 | 38 | 22 |
| Never | 63 | 59 | 62 | 78 |
| 8. Family member or spouse | | | | |
| Often or sometimes | 83 | 80 | 100 | 78 |
| Never | 17 | 20 | 0 | 22 |
| 9. Dean of men or women | | | | |
| Often or sometimes | 28 | 10 | 62 | 56** |
| Never | 72 | 90 | 38 | 44 |
| 10. Counselor in non-university agency | | | | |
| Often or sometimes | 18 | 14 | 14 | 33 |
| Never | 82 | 86 | 86 | 67 |
| 11. Person employed in my intended field | | | | |
| Often or sometimes | 53 | 53 | 62 | 44 |
| Never | 47 | 47 | 38 | 56 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 16. How many hours a week did you study? | | | | |
| A. In high school? | | | | |
| 1-10 hours | 41 | 53 | 22 | 20 |
| 11-15 hours | 26 | 19 | 33 | 30 |
| 16-20 hours | 14 | 12 | 11 | 20 |
| 21-25 hours | 14 | 12 | 11 | 20 |
| 26-35 hours | 0 | 0 | 0 | 0 |
| 36-45 hours | 4 | 0 | 22 | 0 |
| 46-50 hours | 4 | 3 | 0 | 10 |
| 50 or more hours | 0 | 0 | 0 | 0 |
| B. At Purdue? | | | | |
| 1-10 hours | 6 | 3 | 11 | 11 |
| 11-15 hours | 12 | 10 | 11 | 22 |
| 16-20 hours | 14 | 16 | 11 | 11 |
| 21-25 hours | 20 | 23 | 11 | 22 |
| 26-35 hours | 18 | 13 | 33 | 22 |
| 36-45 hours | 16 | 23 | 11 | 0 |
| 45-50 hours | 4 | 3 | 11 | 0 |
| 50 or more hours | 8 | 10 | 0 | 11 |
| 17. As an undergraduate, what is or was your average grade | | | | |
| A. In your major subject? | | | | |
| A | 4 | 0 | 0 | 22*** |
| A- | 2 | 0 | 0 | 11 |
| B+ | 12 | 18 | 0 | 0 |
| B | 14 | 12 | 25 | 11 |
| B- | 8 | 9 | 0 | 11 |
| C+ | 26 | 18 | 75 | 11 |
| C | 20 | 30 | 0 | 0 |
| C- | 8 | 12 | 0 | 0 |
| D+ | 0 | 0 | 0 | 0 |
| D | 4 | 0 | 0 | 22 |
| D- | 0 | 0 | 0 | 0 |
| F | 2 | 0 | 0 | 11 |
| B. In all your subjects? | | | | |
| A | 2 | 0 | 0 | 11 |
| A- | 0 | 0 | 0 | 0 |
| B+ | 6 | 6 | 0 | 11 |
| B | 6 | 6 | 12 | 0 |
| B- | 18 | 21 | 0 | 22 |
| C+ | 30 | 36 | 38 | 0 |
| C | 20 | 24 | 12 | 11 |
| C- | 10 | 3 | 25 | 22 |
| D+ | 4 | 3 | 12 | 0 |
| D | 4 | 22 | 0 | 0 |
| D- | 0 | 0 | 0 | 0 |
| F | 0 | 0 | 0 | 0 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 18. To what extent do the following statements describe your experiences and impressions of Purdue? | | | | |
| 1. There is poor communication between administration and students. | | | | |
| Very | 42 | 47 | 14 | 44 |
| Somewhat | 46 | 41 | 86 | 33 |
| Not at all | 12 | 12 | 0 | 22 |
| 2. Students are friendly. | | | | |
| Very | 20 | 12 | 44 | 22 |
| Somewhat | 56 | 59 | 44 | 56 |
| Not at all | 24 | 28 | 11 | 22 |
| 3. College is intellectually stimulating. | | | | |
| Very | 35 | 30 | 44 | 44 |
| Somewhat | 49 | 58 | 33 | 33 |
| Not at all | 16 | 12 | 22 | 22 |
| 4. College is proper and conventional. | | | | |
| Very | 35 | 24 | 56 | 56 |
| Somewhat | 51 | 54 | 44 | 44 |
| Not at all | 14 | 21 | 0 | 0 |
| 5. There is an active social and dating life. | | | | |
| Very | 6 | 6 | 0 | 11* |
| Somewhat | 53 | 42 | 100 | 44 |
| Not at all | 41 | 52 | 0 | 44 |
| 6. College emphasizes religious and ethical values. | | | | |
| Very | 2 | 3 | 0 | 0 |
| Somewhat | 37 | 39 | 33 | 33 |
| Not at all | 61 | 58 | 6 | 67 |
| 7. Has a friendly, approachable faculty. | | | | |
| Very | 14 | 12 | 11 | 22 |
| Somewhat | 67 | 67 | 78 | 56 |
| Not at all | 20 | 21 | 11 | 22 |
| 8. Rules are strictly enforced. | | | | |
| Very | 55 | 54 | 33 | 78 |
| Somewhat | 37 | 39 | 56 | 11 |
| Not at all | 8 | 6 | 11 | 11 |
| 9. There is keen competition for grades. | | | | |
| Very | 62 | 62 | 56 | 67 |
| Somewhat | 36 | 34 | 44 | 33 |
| Not at all | 2 | 3 | 0 | 0 |
| 10. Students are treated like numbers. | | | | |
| Very | 39 | 36 | 22 | 67 |
| Somewhat | 51 | 54 | 67 | 22 |
| Not at all | 10 | 9 | 11 | 11 |
| 11. There is much school spirit. | | | | |
| Very | 22 | 15 | 22 | 44 |
| Somewhat | 57 | 61 | 67 | 33 |
| Not at all | 22 | 24 | 11 | 22 |
| 12. Has a liberal environment. | | | | |
| Very | 2 | 3 | 0 | 0 |
| Somewhat | 40 | 34 | 67 | 33 |
| Not at all | 58 | 62 | 33 | 67 |
| 13. Has an informal environment. | | | | |
| Very | 8 | 6 | 11 | 11 |
| Somewhat | 70 | 78 | 67 | 44 |
| Not at all | 22 | 16 | 22 | 44 |
| 14. The teaching is excellent. | | | | |
| Very | 28 | 30 | 11 | 33 |
| Somewhat | 63 | 61 | 78 | 56 |
| Not at all | 10 | 9 | 11 | 11 |
| 15. Students are very bright. | | | | |
| Very | 29 | 30 | 44 | 11 |
| Somewhat | 71 | 70 | 56 | 89 |
| Not at all | 0 | 0 | 0 | 0 |
| 16. There are lots of student cliques. | | | | |
| Very | 62 | 64 | 75 | 44 |
| Somewhat | 36 | 33 | 25 | 56 |
| Not at all | 2 | 3 | 0 | 0 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 17. College is cold and impersonal. | | | | |
| Very | 26 | 27 | 33 | 11 |
| Somewhat | 57 | 61 | 44 | 56 |
| Not at all | 18 | 12 | 22 | 33 |
| 18. College helps students become mature. | | | | |
| Very | 29 | 36 | 11 | 22 |
| Somewhat | 53 | 48 | 78 | 44 |
| Not at all | 18 | 15 | 11 | 33 |
| 19. Students are independent. | | | | |
| Very | 33 | 38 | 38 | 11** |
| Somewhat | 63 | 62 | 37 | 89 |
| Not at all | 4 | 0 | 25 | 0 |
| 20. Students often change majors. | | | | |
| Very | 36 | 33 | 44 | 38 |
| Somewhat | 54 | 54 | 56 | 50 |
| Not at all | 10 | 12 | 0 | 12 |
| 21. Many students have jobs. | | | | |
| Very | 16 | 21 | 11 | 0 |
| Somewhat | 63 | 61 | 67 | 67 |
| Not at all | 22 | 18 | 22 | 33 |
| 22. Is in a closely knit community. | | | | |
| Very | 10 | 3 | 11 | 33 |
| Somewhat | 36 | 34 | 44 | 33 |
| Not at all | 54 | 62 | 44 | 33 |
| 23. Students are involved in governance. | | | | |
| Very | 4 | 0 | 11 | 11 |
| Somewhat | 52 | 53 | 67 | 33 |
| Not at all | 44 | 47 | 22 | 56 |
| 24. College is committed to social change. | | | | |
| Very | 10 | 10 | 0 | 22 |
| Somewhat | 33 | 26 | 50 | 44 |
| Not at all | 56 | 64 | 50 | 33 |
| 25. Professors are often absent from class. | | | | |
| Very | 2 | 3 | 0 | 0 |
| Somewhat | 28 | 31 | 22 | 22 |
| Not at all | 70 | 66 | 78 | 78 |
| 26. There is a lot of radical activity. | | | | |
| Very | 4 | 6 | 0 | 0 |
| Somewhat | 18 | 9 | 38 | 33 |
| Not at all | 78 | 85 | 62 | 67 |
| 27. Professors are more concerned with research than teaching. | | | | |
| Very | 16 | 19 | 22 | 0 |
| Somewhat | 50 | 50 | 33 | 67 |
| Not at all | 34 | 31 | 44 | 33 |
| 28. There is a lot of drinking. | | | | |
| Very | 31 | 30 | 22 | 44 |
| Somewhat | 47 | 46 | 56 | 44 |
| Not at all | 22 | 24 | 22 | 11 |
| 29. Drugs are easily available. | | | | |
| Very | 29 | 25 | 11 | 62 |
| Somewhat | 47 | 47 | 67 | 25 |
| Not at all | 24 | 28 | 22 | 12 |
| 30. Academic cheating is fairly common. | | | | |
| Very | 26 | 25 | 25 | 33 |
| Somewhat | 43 | 41 | 62 | 33 |
| Not at all | 31 | 34 | 12 | 33 |
| 31. Most students think that traditional politics are ineffective in leadning to social change. | | | | |
| Very | 19 | 26 | 0 | 11** |
| Somewhat | 60 | 58 | 100 | 33 |
| Not at all | 21 | 16 | 0 | 56 |
| 32. Not enough minority students on campus. | | | | |
| Very | 69 | 70 | 67 | 67 |
| Somewhat | 24 | 21 | 33 | 22 |
| Not at all | 8 | 9 | 0 | 11 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 33. Adequate tutorial support for students. | | | | |
| Very | 16 | 22 | 0 | 11 |
| Somewhat | 64 | 53 | 100 | 67 |
| Not at all | 20 | 25 | 0 | 22 |
| 34. Unfriendly climate for minority students. | | | | |
| Very | 47 | 53 | 38 | 33 |
| Somewhat | 41 | 38 | 50 | 44 |
| Not at all | 12 | 9 | 12 | 22 |
| 35. Favoritism by professors toward male students. | | | | |
| Very | 2 | 0 | 0 | 11 |
| Somewhat | 18 | 16 | 33 | 11 |
| Not at all | 80 | 84 | 67 | 78 |
| 36. Favoritism by professors toward female students. | | | | |
| Very | 0 | 0 | 0 | 0 |
| Somewhat | 37 | 39 | 44 | 22 |
| Not at all | 63 | 61 | 56 | 78 |
| 37. Favoritism by professors toward black students. | | | | |
| Very | 0 | 0 | 0 | 0 |
| Somewhat | 10 | 9 | 11 | 11 |
| Not at all | 90 | 91 | 89 | 89 |
| 38. Good financial assistance. | | | | |
| Very | 14 | 9 | 0 | 44** |
| Somewhat | 43 | 39 | 78 | 22 |
| Not at all | 43 | 52 | 22 | 33 |
| 39. Counselors are usually available. | | | | |
| Very | 31 | 30 | 44 | 22 |
| Somewhat | 57 | 58 | 56 | 56 |
| Not at all | 12 | 12 | 0 | 22 |
| 40. Counselors are usually helpful. | | | | |
| Very | 28 | 21 | 33 | 44 |
| Somewhat | 61 | 67 | 56 | 44 |
| Not at all | 12 | 12 | 11 | 11 |
| 19. Where did you live most of the time while attending college? | | | | |
| A. Freshman years | | | | |
| 1. At home | 11 | 16 | 0 | 10 |
| 2. College dormitory | 83 | 79 | 90 | 90 |
| 3. Fraternity/sorority house | 0 | 0 | 0 | 0 |
| 4. Rented room or apartment | 6 | 6 | 10 | 0 |
| 5. With friends or relatives | 0 | 0 | 0 | 0 |
| B. Sophomore years | | | | |
| 1. At home | 13 | 12 | 0 | 33 |
| 2. College dormitory | 62 | 58 | 80 | 67 |
| 3. Fraternity/sorority house | 2 | 3 | 0 | 0 |
| 4. Rented room or apartment | 15 | 18 | 20 | 0 |
| 5. With friends or relatives | 2 | 6 | 0 | 0 |
| 20. What major kinds of adjustments did you have to make upon entering Purdue? | | | | |
| 1. I had to improve my study habits. | 72 | 79 | 80 | 40 |
| 2. I had to improve my memory. | 43 | 48 | 70 | 0 |
| 3. I had to learn to work with less guidance from instructors. | 58 | 64 | 50 | 50 |
| 4. I had to take on a more mature attitude and become more responsible. | 53 | 58 | 50 | 40 |
| 5. I had to adjust to less free time for leisure and personal interest. | 60 | 70 | 50 | 40 |
| 6. I had to get used to the social climate here. | 85 | 91 | 60 | 90 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 21. How difficult did you find these adjustments? | | | | |
| Very difficult | 25 | 27 | 10 | 30 |
| Quite difficult | 43 | 30 | 80 | 50 |
| Not so difficult | 30 | 42 | 10 | 10 |
| Not at all difficult | 2 | 0 | 0 | 10 |
| 22. Listed below are a number of brief statements describing many different kinds of activities. Please check the LIKE or DISLIKE box for each item according to the following directions: LIKE - If the item describes an activity or event that you would like, enjoy, or find more pleasant than unpleasant. DISLIKE - If the item describes an activity or event that you would dislike, reject, or find more unpleasant than pleasant. | | | | |
| 1. Working twice as hard at a problem when it looks as if I don't know the answer. | | | | |
| Like | 49 | 55 | 30 | 50 |
| Dislike | 51 | 45 | 70 | 50 |
| 2. Returning to a task which I have previously failed. | | | | |
| Like | 70 | 76 | 40 | 80 |
| Dislike | 30 | 24 | 60 | 20 |
| 3. Staying away from activities which I don't do well. | | | | |
| Like | 51 | 48 | 40 | 70 |
| Dislike | 49 | 52 | 60 | 30 |
| 4. Picking out some hard task for myself and doing it. | | | | |
| Like | 79 | 79 | 80 | 80 |
| Dislike | 21 | 21 | 20 | 20 |
| 5. Doing a job under pressure | | | | |
| Like | 62 | 70 | 60 | 40 |
| Dislike | 38 | 30 | 40 | 60 |
| 6. Having to struggle hard for something I want. | | | | |
| Like | 74 | 76 | 80 | 60 |
| Dislike | 26 | 24 | 20 | 40 |
| 7. Avoiding something at which I have once failed. | | | | |
| Like | 21 | 18 | 30 | 20 |
| Dislike | 79 | 82 | 70 | 80 |
| 8. Quitting a project that seems too difficult for me. | | | | |
| Like | 17 | 18 | 20 | 10 |
| Dislike | 83 | 82 | 80 | 90 |
| 9. Doing something over again, just to get it right. | | | | |
| Like | 81 | 82 | 70 | 90 |
| Dislike | 19 | 18 | 30 | 10 |
| 10. Avoiding something because I'm not sure I'll be successful at it. | | | | |
| Like | 15 | 15 | 10 | 20 |
| Dislike | 85 | 85 | 90 | 80 |
| 11. Giving up on a problem rather than doing it in a way that may be wrong. | | | | |
| Like | 17 | 12 | 20 | 30 |
| Dislike | 83 | 88 | 80 | 70 |
| 12. Setting difficult goals for myself. | | | | |
| Like | 83 | 94 | 90 | 40*** |
| Dislike | 17 | 6 | 10 | 60 |

| Item | Total | Persisters | Transfers | Withdrawals |
|---|---|---|---|---|
| 13. Working for someone who will accept nothing less than the best that's in me. | | | | |
| Like | 75 | 88 | 30 | 80** |
| Dislike | 25 | 12 | 70 | 20 |
| 14. Setting higher standards for myself than anyone else would, and working hard to achieve them. | | | | |
| Like | 91 | 97 | 90 | 70 |
| Dislike | 9 | 3 | 10 | 30 |
| 15. Competing with others for a prize or goal. | | | | |
| Like | 60 | 67 | 60 | 40 |
| Dislike | 40 | 33 | 40 | 60 |
| 16. Working on tasks so difficult I can hardly do them. | | | | |
| Like | 40 | 55 | 20 | 10* |
| Dislike | 60 | 45 | 80 | 90 |
| 17. Doing something very difficult in order to prove I can do it. | | | | |
| Like | 72 | 82 | 70 | 40 |
| Dislike | 28 | 18 | 30 | 60 |
| 18. Choosing difficult tasks in preference to easy ones. | | | | |
| Like | 60 | 73 | 30 | 50 |
| Dislike | 40 | 27 | 70 | 50 |
| 19. Taking examinations | | | | |
| Like | 26 | 30 | 10 | 30 |
| Dislike | 74 | 70 | 90 | 70 |
| 20. Sacrificing everything else in order to achieve something outstanding. | | | | |
| Like | 45 | 55 | 50 | 10* |
| Dislike | 55 | 45 | 50 | 90 |

## APPENDIX B

| THE FOLLOWING QUESTIONS WERE ANSWERED BY STUDENTS PERSISTING IN ENGINEERING ONLY: | Percentage of Total Number of Cases (33) |
|---|---|
| 23. Your original school choice in engineering: | |
| Astronautical & Aeronautical Engineering | 17 |
| Agricultural Engineering | 0 |
| Civil Engineering | 20 |
| Chemical Engineering | 7 |
| Electrical Engineering | 37 |
| Interdisciplinary Engineering | 0 |
| Industrial Engineering | 3 |
| Mechanical Engineering | 13 |
| Materials Science Engineering | 0 |
| Undecided | 3 |
| 24. Your present school choice in engineering: | |
| Astronautical & Aeronautical Engineering | 13 |
| Agricultural Engineering | 0 |
| Civil Engineering | 13 |
| Chemical Engineering | 7 |
| Electrical Engineering | 27 |
| Interdisciplinary Engineering | 10 |
| Industrial Engineering | 3 |
| Mechanical Engineering | 20 |
| Materials Science Engineering | 0 |
| Undecided | 0 |
| 25. If you plan to continue at Purdue, what are your long range plans? | |
| 1. Complete requirements for B.S. in Engineering and secure employment | 59 |
| 2. Complete another semester in engineering and transfer to another university | 0 |
| 3. Complete another semester in engineering and transfer within Purdue | 0 |
| 4. Go to graduate school in engineering | 21 |
| 5. Go to graduate school but not in engineering | 10 |
| 6. Other | 10 |
| 26. Check the reasons below why you have persisted in engineering at Purdue. | |
| 1. I was always very interested in engineering | 68 |
| 2. I am doing well in my courses | 32 |
| 3. I found my courses interested me | 68 |
| 4. Excellent job opportunities available in engineering | 86 |
| 5. Engineering was what I expected | 32 |
| 6. I like my courses and feel suited for work in that field | 57 |
| 7. I found engineering challenging | 86 |
| 8. Engineering offers financial rewards | 75 |
| 9. Opportunity to be creative and original | 64 |
| 10. Prestige and satisfaction available in engineering | 79 |
| 11. Friends have been supportive | 39 |
| 12. Family has been supportive | 57 |
| 13. Interest and aptitude tests favorable | 36 |
| 14. I have learned a great deal | 61 |
| 15. Other | 11 |

## APPENDIX C

| THE FOLLOWING QUESTIONS WERE ANSWERED BY STUDENTS WHO TRANSFERRED OUT OF ENGINEERING INTO OTHER FIELDS ONLY: | Percentage of Total Number of Cases (10) |
|---|---|
| 23. Your classification at the time of changing majors: | |
| First semester | 0 |
| Second semester | 33 |
| Third semester | 67 |
| (No transfers indicated after third semester through ninth semester or more) | |
| 24. Your classification at present, if enrolled: | |
| Eighth semester or higher | 100 |
| 25. What was your original school choice in engineering? | |
| Astronautical & Aeronautical Engineering | 33 |
| Electrical Engineering | 67 |
| 26. If you have transferred to another school within Purdue, check the school and program of your choice. | |
| School of Industrial Management | 33 |
| School of Science | 33 |
| School of Technology | 33 |
| 27. To what extent did you utilize the university counseling service in arriving at your decision to transfer into another school? | |
| I talked to more than one but less than four counselors. | 67 |
| I did not talk to a counselor. | 33 |
| 28. How important was the counsel you received in helping you to arrive at your decision to choose a new major? | |
| Extremely important | 33 |
| Helpful | 33 |
| Had no effect | 0 |
| Slightly confusing | 0 |
| Very confusing | 0 |
| Other | 0 |
| 29. What are the reasons for changing from engineering to your present school choice? | |
| 1. No longer interested in engineering | 0 |
| 2. I was doing poorly in my courses | 67 |
| 3. I found my courses did not interest me | 0 |
| 4. Though my courses interested me, I found others more interesting | 33 |
| 5. Engineering was not what I thought it was | 33 |
| 6. I liked my courses but felt unsuited for work in that field | 33 |
| 7. I found other courses to be more challenging | 0 |
| 8. I became interested in a career that offered greater financial potential | 0 |
| 9. I felt I would gain more prestige and satisfaction in another field | 0 |
| 10. My friends interested me in another field | 33 |
| 11. I took interest and aptitude tests | 33 |
| 12. I was not really learning anything new | 0 |
| 13. I often didn't know what the professors wanted | 0 |
| 14. I was often lonely | 33 |
| 15. I was under much strain and pressure | 0 |
| 16. I was often in low spirits | 33 |

## APPENDIX D

| THE FOLLOWING QUESTIONS WERE ANSWERED BY STUDENTS WHO HAVE WITHDRAWN FROM THE SCHOOLS OF ENGINEERING AND/OR THE UNIVERSITY ONLY: | Percentage of Total Number of Cases (19) |
|---|---|
| 23. Your classification at time of withdrawal: | |
| First semester | 0 |
| Second semester | 42 |
| Third semester | 8 |
| Fourth semester | 25 |
| Fifth semester | 8 |
| Sixth semester | 17 |
| (No withdrawals indicated after seventh semester) | |
| 24. Your original school choice in engineering before withdrawing: | |
| Astronautical & Aeronautical Engineering | 17 |
| Agricultural Engineering | 0 |
| Civil Engineering | 17 |
| Chemical Engineering | 0 |
| Electrical Engineering | 50 |
| Interdisciplinary Engineering | 0 |
| Industrial Engineering | 8 |
| Mechanical Engineering | 8 |
| Materials Science Engineering | 0 |
| Undecided | 0 |
| 25. To what extent did you utilize the university counseling service in arriving at your decision to withdraw? | |
| I talked to more than four counselors | 0 |
| I talked to more than one but less than four counselors | 50 |
| I talked to one counselor | 8 |
| I did not talk to a counselor | 33 |
| Other | 8 |
| 26. How important was the counsel you received in helping you to arrive at your decision to withdraw from Purdue? | |
| Extremely important | 20 |
| Helpful | 0 |
| Had no effect | 70 |
| Slightly confusing | 1 |
| Very confusing | 0 |
| 27. Since your withdrawal from Purdue, check the one category which best describes your activities after leaving Purdue. | |
| Entered another college or university | 46 |
| Entered a technical institute | 0 |
| Entered Armed Forces | 0 |
| Worked temporarily | 27 |
| Found a permanent job | 27 |
| 28. How many semesters did you attend Purdue's Lafayette Campus? | |
| 1-2 semesters | 36 |
| 3-4 semesters | 54 |
| 5-6 semesters | 9 |
| 7 or more semesters | 0 |
| 29. What were your reasons for dropping out of Purdue? | |
| Financial | 17 |
| Change of vocational interests | 17 |
| Lack of interest in engineering | 8 |
| Academic difficulties | 58 |
| Other (Immaturity and social atmosphere listed most often) | 58 |

30. Are you attending (or have you attended) another college or are you receiving (or have you received) any other formal education since leaving the Lafayette Campus? (Exclusive of military service or on-the-job training)
    1. From another institution 47

31. What were your reasons for dropping out of Purdue? (Check as many as apply)
    1. Financial 12
    2. Change of vocational interests 12
    3. Lack of interest in engineering 6
    4. Academic difficulties 41
    5. Other 41

32. If you had it to do over, would you:
    1. Enroll at Purdue in engineering 67
    2. Enroll at Purdue in another field 17
    3. Enroll in engineering at another university 0
    4. Enroll in another field at another university 17
    5. Not enroll in college at all 0

33. Since leaving Purdue have you received any training in the following organizations:
    1. Military 12
    2. Government 0
    3. Industry 12
    4. Other 0

34. What occupational experiences have you had since leaving the Purdue Campus at Lafayette? (Begin with present occupation and include those occupations during Service)
    1. From another organization 47

35.-37. How well have the training and education you have obtained prepared you:
    A. For an occupation that will make full use of your abilities?
        Very well 27
        Fairly well 27
        Not very well 27
        Rather poorly 9
        Very poorly 9
    B. For a full and satisfying life outside of your work?
        Very well 18
        Fairly well 36
        Not very well 27
        Rather poorly 9
        Very poorly 9
    C. For effective performance of your responsibilities as a citizen?
        Very well 27
        Fairly well 46
        Not very well 9
        Rather poorly 0
        Very poorly 18

38. Have you made any important decisions that you are sorry about now?

| | |
|---|---|
| 1. I wish I had taken additional educational training during high school to prepare me for college. | 22 |
| 2. I wish I had graduated from college instead of dropping out. | 33 |
| 3. I'm sorry I majored in engineering. | 22 |
| 4. I'm sorry I went to Purdue. | 22 |
| 5. I'm sorry I didn't select a different college from the one I attended. | 0 |
| 6. I wish I had chosen a different major field in college. | 22 |
| 7. I'm sorry about the kind of work I decided to do. | 0 |
| 8. I wish I hadn't been so young when I got married. | 22 |
| 9. Other | 11 |
| 10. No, I'm not sorry about any important decisions I've made. | 22 |

39. What are your long range educational plans?

| | |
|---|---|
| 1. Return to Purdue in engineering | 54 |
| 2. Return to Purdue but not in engineering | 3 |
| 3. Return to another college but not in engineering | 9 |
| 4. Other | 27 |

40. What were the reasons for withdrawing from Purdue or engineering?

| | |
|---|---|
| 1. No longer interested in engineering | 9 |
| 2. I was doing poorly in my courses. | 73 |
| 3. My courses did not interest me. | 27 |
| 4. Though my courses interested me, I found others more interesting. | 36 |
| 5. Engineering was not what I thought. | 36 |
| 6. I liked my courses but felt unsuited for work in that field. | 18 |
| 7. I found other courses more challenging. | 18 |
| 8. I became interested in a career that offered greater financial potential. | 0 |
| 9. I felt I would gain more prestige and satisfaction in another field. | 0 |
| 10. My friends interested me in another field. | 9 |
| 11. I took aptitude and interest tests. | 9 |
| 12. I was not learning anything new. | 0 |
| 13. I often didn't know what the professors wanted. | 9 |
| 14. I was often lonely. | 54 |
| 15. I was under much pressure and strain. | 54 |
| 16. I was often in low spirits. | 73 |
| 17. Other | 27 |

# APPENDIX E

## 1972-1974 PURDUE BLACK ENGINEERING CANCELLATION STUDY[1]

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This report was prepared as part of a study of factors associated with the attraction and retention of Black Americans in engineering at Purdue University. A questionnaire (Appendix 1) was sent to 47 black students that were admitted to Purdue for the school years beginning 1972-1974, but never attended. Out of these, 33 (70%) returned the questionnaire (8 of 10 for 1972, 11 of 17 for 1973 and 14 of 20 for 1974). This study attempts to pick out some of the main trends of the Purdue black cancellation students.

Nearly all of the responding students (93%) went on to attend some college even though they did not attend Purdue and nearly 66% (19/30) had studied or were studying engineering at the time of the survey. Table 1 lists the colleges attended, their location and each cancellee's major field. Only one student attended another Indiana college and only one attended another Big Ten school. One-third of the cancellations who went on to college attended either the General Motors Institute (6) in Flint, Michigan, or one of the military academies (4), all of which offer substantial financial support. Most of the students attended smaller, private colleges or universities.

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TABLE 1

COLLEGE ATTENDED BY CANCELLEES RESPONDING TO SURVEY

| COLLEGE | LOCATION | MAJOR |
|---|---|---|
| **1972** | | |
| Antioch College | Yellow Springs, OH | Undeclared |
| Dartmouth College | Hanover, NH | Urban Planning |
| General Motors Institute | Flint, MI | Engineering |
| General Motors Institute | Flint, MI | Engineering |
| Standford | Palo Alto, CA | Electrical Engr. |
| U.S. Air Force Academy | USAF Academy, CO | Math-Management |
| U.S. Naval Academy | Annapolis, MD | Analytical Mngt. |
| University of Kentucky | Lexington, KY | Electrical Engr. |
| **1973** | | |
| Brown University | Providence, RI | Engineering |
| Case Western Reserve Univ. | Cleveland, OH | Electrical Engr. |
| Cornell University | Ithaca, NY | Engineering |
| Cornell University | Ithaca, NY | Engineering |
| General Motors Institute | Flint, MI | Engineering |
| General Motors Institute | Flint, MI | Engineering |
| Howard University | Washington, D.C. | Chemical Engr. |
| Northeastern University | Boston, MA | Engineering |
| Princeton University | Princeton, NJ | Geology |
| U.S. Naval Academy | Annapolis, MD | Economics |
| U.S. Naval Academy | Annapolis, MD | Management Tech. |
| **1974** | | |
| Bradley University | Peoria, IL | Electrical Engr. |
| General Motors Institute | Flint, MI | Engineering |
| General Motors Institute | Flint, MI | Engineering |
| Lincoln University | Jefferson City, MO | Philosophy |
| Manchester | N. Manchester, IN | Accounting |
| Marietta College | Marietta, OH | Radio and Television |
| Northwestern University | Evanston, IL | Civil Engineering |
| Prairie View | Prairie View, TX | Civil Engineering |
| Tulane University | New Orleans, LA | Psychology |
| University of Delaware | Neward, DE | Electrical Engr. |
| University of Tennessee | Knoxville, TN | Engineering |

One student explained it like this: "I would have attended Purdue on an NROTC scholarship but decided to attend the Academy when my appointment came through. If I had not come here I'm sure that I would have attended Purdue. It is a fine school. At this time I am considering separation from the Academy and I am still interested in Purdue, if I could obtain financial aid or work study."

From Table 1 it is clear that many of the cancellees went on to study engineering at the institutions attended. One student said that his reason for studying engineering was, "Because it is a challenging major which allows an excellent opportunity to help solve some of the many problems of mankind." Another student summed up the overall responses with his reason for studying engineering: "Top Pay, Good Employment Opportunities, Interest in Mathematics."

Reasons for NOT studying engineering were generally a lack of interest and a poor high school background. For example, one response to this was, "After working with engineers while summer employed I decided that it wasn't the field for me!!" Another cancellee noted that, "I later decided that I would not succeed in engineering because of poor secondary school preparation."

Table 2 gives the percentage of how cancellees compared the college attended with Purdue as more favorable, equal or less favorable on various factors. They are in rank order based on the percentage rating the college attended more favorable than Purdue.

Substantially more of the cancellees rated the college they attended more favorable than Purdue on Financial Aid Available, Low Cost, Size of the College and to a lesser degree on Academic Quality and the Encouragement of Hign School Teachers, Advisors and Peers. Prestige of College,

TABLE 2

PERCENTAGES OF PURDUE CANCELLEES COMPARING FAVORABILITY OF COLLEGE ATTENDED, RANKED IN DESCENDING ORDER

| FACTORS | COLLEGE ATTENDED MORE FAVORABLE | EQUAL | PURDUE MORE FAVORABLE | No. of Cases |
|---|---|---|---|---|
| Financial Aid Available | 62% | 24% | 14% | (27) |
| Size of College | 55% | 27% | 17% | (29) |
| Low Cost | 55% | 07% | 37% | (29) |
| Prestige of the College | 41% | 24% | 36% | (29) |
| Academic Quality | 37% | 36% | 27% | (29) |
| Encouragement of High School Teachers and Advisors | 34% | 46% | 19% | (26) |
| Encouragement of Peers | 34% | 42% | 23% | (26) |
| Geographic Location | 33% | 40% | 26% | (27) |
| Social Climate | 33% | 29% | 37% | (27) |
| Encouragement of Relatives | 28% | 52% | 20% | (25) |
| Living Conditions on Campus | 25% | 37% | 37% | (2 |
| Overall Admission Procedures | 12% | 51% | 37% | (27) |

the Influence of Relatives and Geographic Location were all rated as being about the same proportion on favorability at Purdue and the institutions attended. The Overall Admissions Procedures and Living Conditions at Purdue were ranked by a higher proportion as more favorable than at the college attended by the cancellees.

The verbatim responses to the question, "What was the single most important factor which influenced your decision not to attend Purdue?" are given in Appendix 2. One of the cancellees stated his reason for not attending Purdue like this: "I couldn't get a loan for the rest of the money that was required to attend Purdue. The loan was a necessity for me to be able to attend Purdue, therefore, this reason alone stopped me from attending Purdue at the last moment. In fact, I was left almost with no hope of attending school." Also, a couple of other reasons were, "I wanted to play baseball for an outstanding team," and "I fell in love with a girl from Prairie View."

Table 3 summarized the results of another question used to get at the importance of various factors influencing the decision of cancellees not to attend Purdue. Again, the same reasons clearly came through: Financial aid, prestige of the other school and size of the school. These facts are consistent with the cancellees' decisions of what other schools to attend. Besides the 10 who went to the military academies or GMI, 16 out of the 30 attending college went to private institutions. It appears to follow that this is probably due largely to the amount of financial aid received, in some cases to the perceived academic quality of the college attended (2 went to Cornell, 1 to Princeton, 1 to Stanford, etc.), and to the fact that all attended smaller schools than Purdue.

Two factors in Table 3 pertaining particularly to black students were those referring to the importance of "Not enough black students"

TABLE 3

PERCENTAGES OF HOW PURDUE CANCELLEES RANKED THE IMPORTANCE OF VARIOUS FACTORS IN THEIR DECISION NOT TO ATTEND PURDUE

| FACTORS | VERY IMPORTANT | LITTLE IMPORTANCE | SOME IMPORTANCE | NO IMPORTANCE | No. |
|---|---|---|---|---|---|
| Larger Financial Grant Elsewhere | 55% | 00% | 10% | 36% | (29) |
| Insufficient Personal/Family Funds | 40% | 06% | 16% | 36% | (30) |
| Admitted to Higher Choice College | 31% | 24% | 13% | 31% | (29) |
| Heard About Financial Aid Too Late | 29% | 03% | 07% | 59% | (27) |
| Cost of Purdue Too High | 28% | 14% | 14% | 42% | (28) |
| Wanted Smaller School | 20% | 24% | 27% | 27% | (29) |
| Not Enough Black Students | 07% | 10% | 17% | 64% | (28) |
| Purdue's $50 Advance Deposit Requirement | 06% | 10% | 16% | 66% | (30) |
| Wanted School Farther From Home | 03% | 13% | 36% | 48% | (29) |
| Admitted to Similar College but in Home State | 03% | 03% | 03% | 88% | (27) |
| Wanted School Closer to Home | 00% | 17% | 17% | 65% | (29) |
| Academic Demands | 00% | 13% | 23% | 63% | (30) |
| Purdue Didn't Offer Type of Educational Program I Wanted | 00% | 10% | 10% | 78% | (28) |
| Wanted to Attend an All-Black College | 00% | 06% | 13% | 80% | (30) |

and "Wanted to attend an all black school." None of the students indicated that it was "very important" to attend an all black school, and 80% said it was of "no importance" at all. Only 7% indicated it was "very important" that there were not enough black students at Purdue, and 60% said the factor was of "no importance" in their decision not to attend Purdue.

Throughout the survey, money came through as being a very important factor to those not attending Purdue. Insight into the sources and percentage of the funds obtained can be found in Table 4. Cancellees relied primarily on scholarships and their parents for financial support. Loans, Work-Study, Grants, Summer Earnings and Personal Savings also account for some of the funds.

TABLE 4

SOURCES OF FINANCIAL SUPPORT OF PURDUE ENGINEERING CANCELLEES
(N=29)

| SOURCE | PERCENT INDICATING SOME SUPPORT | MEAN PERCENTAGE OF TOTAL EXPENSES PROVIDED BY SOURCE |
|---|---|---|
| Scholarship | 59% | 30% |
| Parents | 47% | 20% |
| Loan | 31% | 09% |
| Work-Study | 22% | 06% |
| Grant | 25% | 04% |
| Summer Earnings | 37% | 03% |
| Personal Savings | 19% | 03% |
| GI Bill | 03% | 03% |
| Other | 09% | 08% |

In conclusion, it is important to note that overall, black engineering students who cancelled their plans to attend Purdue decided to go to college elsewhere. General Motors Institute and the military academies were attended by about a third of the cancellees. The primary reasons for not attending Purdue according to the black engineering cancellees seemed to be money (more financial aid available elsewhere or just a lack of personal/family funds), size (all attended smaller schools than Purdue), and for a few students, the academic quality and prestige of the school attended. The fact that there were not enough black students at Purdue or that Purdue is not predominantly black did not seem to be a major factor. Also, most cancellees rated the living conditions and overall admission procedures at Purdue more favorable than at the college they attended.

# APPENDIX 1

## The Percentage of Total Respondents Selecting Each Alternative of Each Question (n=33)

1974-75 PURDUE ENGINEERING CANCELLATION STUDY

*Please check (✓) and fill in spaces where applicable. If unclear or objectionable, make notation directly on the questionnaire.*

Indicate which of the following applied to you during the fall of:
*(Mark as many as apply)*

| | 1972 | 1973 | 1974 |
|---|---|---|---|
| Attending college, full-time (undergraduate) | 14 | 50 | 79 |
| Attending college, part-time (undergraduate) | 00 | 04 | 04 |
| Attending high school | 54 | 32 | 00 |
| Having a temporary college interruption (illness, etc.) | 00 | 00 | 11 |
| Attending night school, adult education | 00 | 00 | 00 |
| Attending a school other than a college or university | 00 | 00 | 00 |
| Working part-time | 11 | 14 | 07 |
| Working full-time | 00 | 00 | 04 |
| In military service, active duty | 04 | 04 | 04 |
| Being a housewife | 00 | 00 | 00 |
| Being unemployed, looking for a job | 00 | 00 | 07 |
| Being unemployed, not looking for a job | 00 | 00 | 00 |
| Other: Specify_____ | 00 | 04 | 04 |

If you are now attending or have attended another college or school, please indicate below:

Yes = 89% No = 11%

Name of School _____ City & State _____ Your Major _____

If you are now employed, please indicate below:

Yes = 21% No = 79%

Company or Agency _____ City & State _____ Your Title _____

What are your long-range career objectives?

64 To be an engineer
04 To be a physical scientist or mathematician
00 To be a technician or skilled worker
00 To be a biological scientist
00 To be in health sciences
04 To become a teacher
00 To be a social worker
07 To be a business man
04 To be in clerical services
11 To be in another profession or service occupation
08 Other_____ (Specify)

If you attended another college, please compare it with Purdue on the following factors:
*(If not applicable, leave blank)*

| PURDUE More Favorable | Equal | College Attended More Favorable | FACTORS |
|---|---|---|---|
| 21 | 36 | 29 | Geographic location |
| 29 | 29 | 36 | Academic quality |
| 36 | 21 | 36 | Prestige of the college |
| 14 | 25 | 54 | Financial aid available |
| 36 | 7 | 50 | Low cost |
| 29 | 29 | 32 | Social climate |
| 29 | 32 | 18 | Living conditions on campus |
| 14 | 46 | 21 | Encouragement of relatives |
| 21 | 36 | 29 | Encouragement of peers & students |
| 18 | 39 | 29 | Encouragement of high school teachers & advisors |
| 18 | 29 | 46 | Size of college |
| 32 | 46 | 11 | Overall admission procedures |
| 11 | 0 | 11 | Other: _____ |

## APPENDIX 1 (cont.)

How important were the following factors in your decision not to attend Purdue? *(Check only one for each factor)*

| Very Important | Some Importance | Little Importance | No Importance | FACTORS |
|---|---|---|---|---|
| 29 | 21 | 14 | 29 | Admitted to higher choice college |
| 0 | 18 | 18 | 57 | Wanted school closer to home |
| 4 | 11 | 32 | 46 | Wanted to be farther from home |
| 18 | 21 | 25 | 25 | Wanted smaller school |
| 4 | 4 | 7 | 75 | Admitted to similar college but in my home state |
| 25 | 4 | 7 | 50 | Heard about financial aid too late |
| 46 | 0 | 7 | 36 | Larger financial grant elsewhere |
| 29 | 11 | 11 | 39 | Cost of attending Purdue too high |
| 39 | 7 | 14 | 36 | Insufficient personal/family funds |
| 7 | 11 | 14 | 61 | Purdue's $50 advance deposit requirement |
| 0 | 14 | 25 | 54 | Academic demands |
| 0 | 7 | 14 | 71 | Wanted to attend all Black school |
| 0 | 7 | 11 | 71 | Purdue didn't offer type of educational program I wanted |
| 7 | 7 | 18 | 54 | Not enough Black students |
| 25 | 0 | 0 | 0 | Other: _____ |
| 4 | 4 | 0 | 0 | Other: _____ |

What are your long-range educational goals? *(Please check one)*

04 No college plans
00 Some college-about 1 year
00 Some college-about 2 years
00 Associate degree (2 years)
21 Bachelor's degree
57 Master's degree
11 Doctor's degree
00 Other: Specify _____

If you attended college, indicate below the sources of your financial support and what percentage of your total expenses each source provided. *(Make sure the total comes to 100%)*

SEE TABLE 4

( ) Scholarship ( )Grant ( ) Loan ( )Work-study ( ) GI Bill ( )Parents ( )Summer Earnings

_____% _____% _____% _____% _____% _____% _____%

( ) My own savings ( ) Other: _____

_____% _____%

To how many colleges other than Purdue did you actually apply for admission? To how many were you accepted? *(Mark one in each column)*

| | Applications | Acceptances |
|---|---|---|
| One | 11 | 11 |
| Two | 11 | 7 |
| Three | 32 | 36 |
| Four | 21 | 25 |
| Five or more | 21 | 14 |

Why did you decide to major in Engineering? _____

Why did you decide not to major in Engineering _____

What was the single most important factor which influenced your decision not to attend Purdue?

SEE APPENDIX B

## APPENDIX 2

Verbatim Responses of Black Engineering Cancellees, By Year Admitted to Purdue, to the Question:

"What was the single most important factor which influenced your decision NOT to attend Purdue?"

1972

The challenge offered by the Academy and the career opportunities which would be available on graduation.

I don't believe that I was mature enough when I entered Purdue. Basically it was learning that in order to get my degree in architecture, Purdue could only give me an interdisciplinary program and later I would have to go to another school to actually get my degree.

Social atmosphere toward Blacks

Because Stanford was in California

In attending Purdue, I though that it would be difficult in changing my major therefore I attended a liberal arts school!!

Acceptance to Naval Academy

Money

1973

Money--I get paid $300.00 a month to go to USNA.

Financial aid, thought competition might be a little more than I could handle.

Acceptance to Case.

Amount of aid given--actually it cost less to attend Brown than Purdue. The engineering society of the school flew me up there one week-end to look the situation over at that time.

Money!!

I would have attended Purdue on an NROTC scholarship but decided to attend the Academy when my appointment came through. If I had not come here I'm sure that I would have attended Purdue. It is a fine school. At this time I am considering separation from the Academy and I am still interested in Purdue, if I could obtain financial aid or work study.

See letter (Financial Aid Procedure)

The decision was by no means an easy one to make, but because of the size and prestige of Princeton.

Ivy League Prestige

APPENDIX 2 (cont.)

"What was the single most important factor which influenced your decision NOT to attend Purdue?"

1974

Local responsibilities

I couldn't get a loan for the rest of the money that was required to attend Purdue. The loan was a necessity for me to be able to attend Purdue, therefore, this reason alone stopped me from attending Purdue at the last moment. In fact, I was left almost no hope of attending school.

1st impression of Purdue was not favorable.

I did not receive adequate financial assistance on attending Purdue.

I thought I was going to get a grant to attend, but never heard anything.

I changed my mind about being an engineer and wanted to pursue a career in medicine.

The financial aid offered would not completely cover the costs of attending Purdue (I fell in love with a girl from Prairie View).

Acceptance to Northwestern

The financial aid offered by GMI was greater although Purdue was more favorable in other aspects.

I thought that General Motors Institute offered me a better long-range career, because after graduation you are placed somewhere in the corporation, but after being here it looks different now. Since the decline in the purchase of automobiles there program doesn't look as good as it did from the outset. I am now interested in attending Purdue for the fall year 75-76. I have already submitted a letter to the admission office of Purdue.

I was accepted at a smaller school that offered a simpler style than did Purdue.

I wanted to play baseball for an outstanding team.

I was offered a full 4 year scholarship including room and board, and expenses by the University of Delaware.